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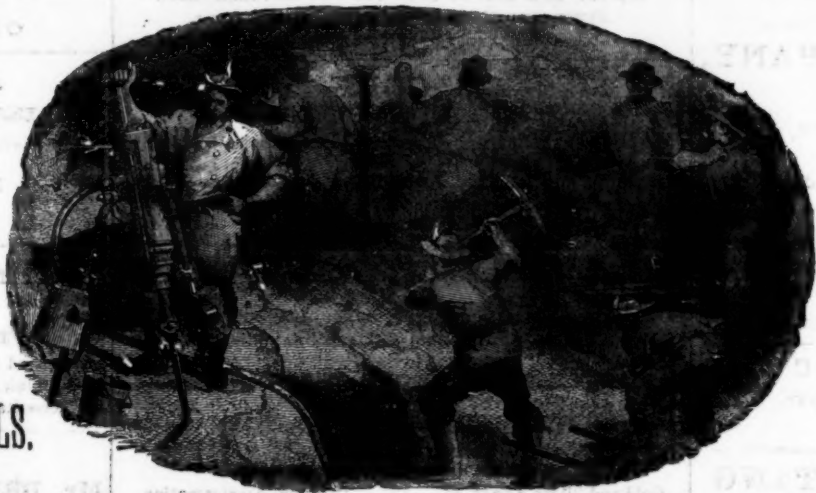
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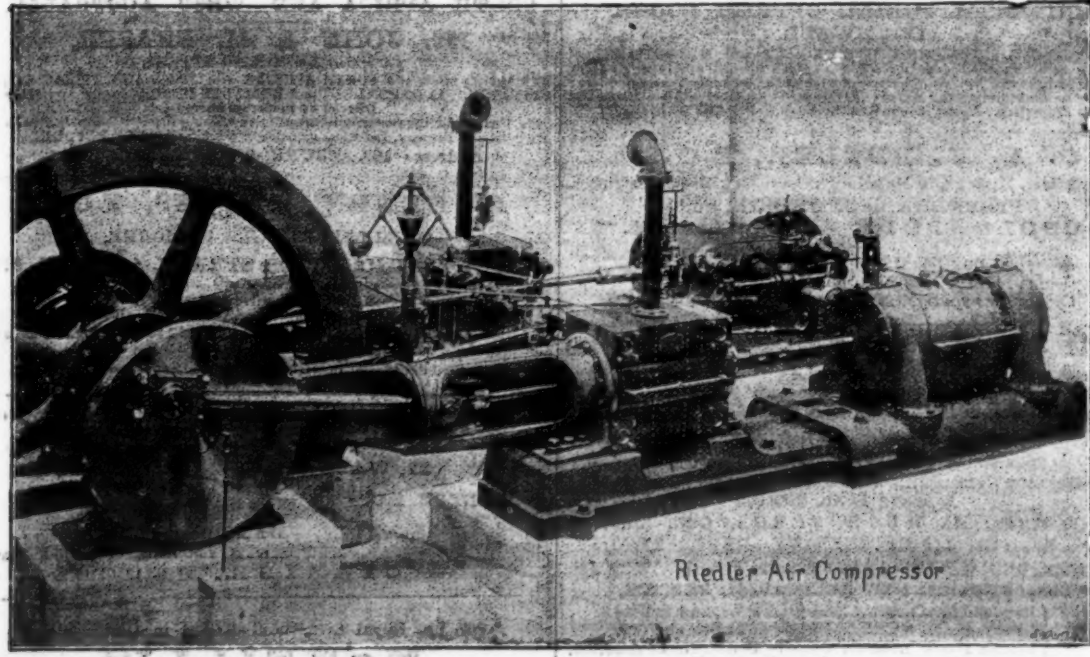
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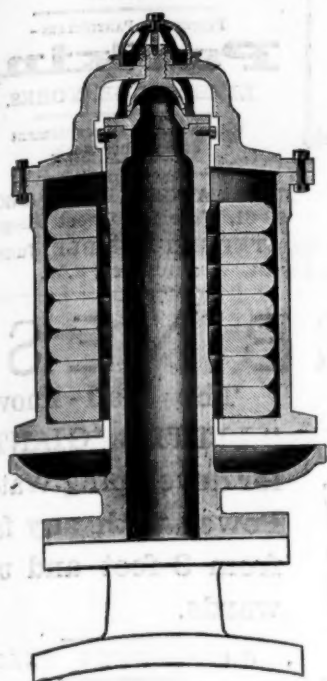
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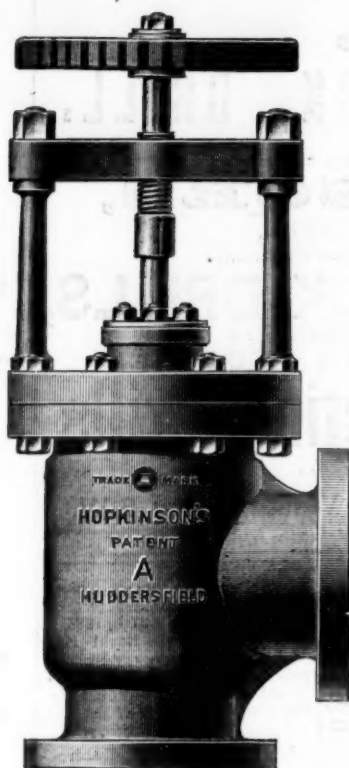
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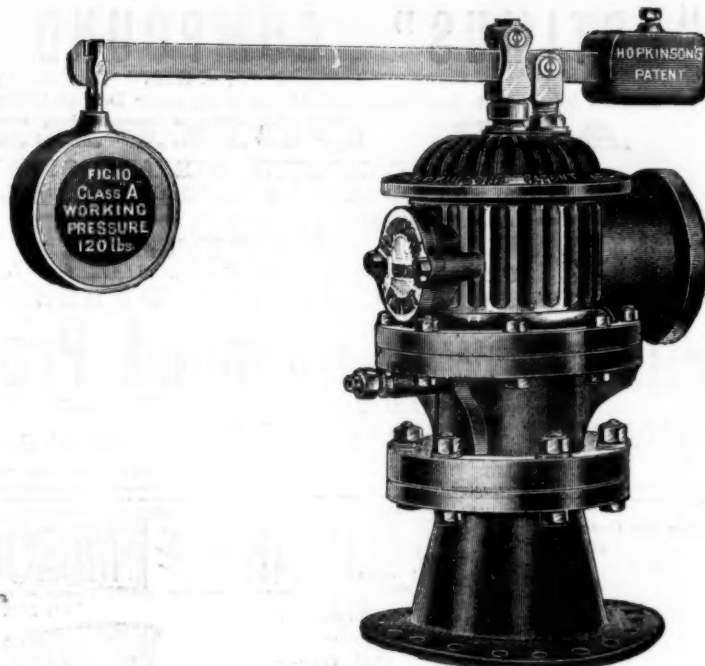
HOPKINSON'S PATENT SAFETY BOILER MOUNTINGS.



HOPKINSON'S PATENT DEAD-WEIGHT SAFETY VALVE. FIG. 20.



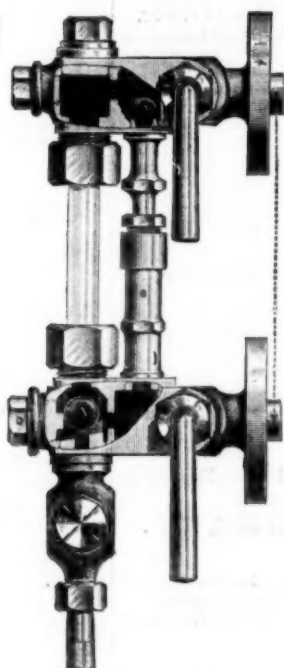
HOPKINSON'S PATENT "TRIAD" JUNCTION VALVE. FIG. 100.



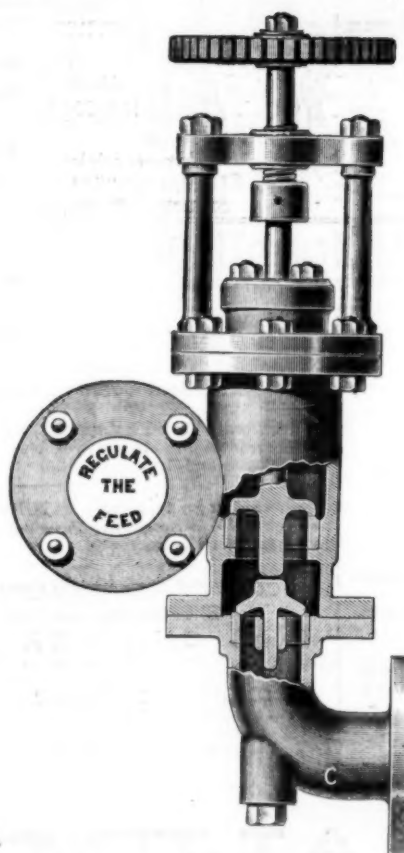
HOPKINSON'S PATENT "DUAD" SAFETY VALVE. FOR HIGH STEAM AND LOW WATER. FIG. 10.



HOPKINSON'S "OWN MAKE" STEAM GAUGE. FIG. 401.



HOPKINSON'S PATENT "ABSOLUTE" WATER GAUGE. FIG. 644.



HOPKINSON'S PATENT ACCESSIBLE CHECK-FEED VALVE. FIG. 132.

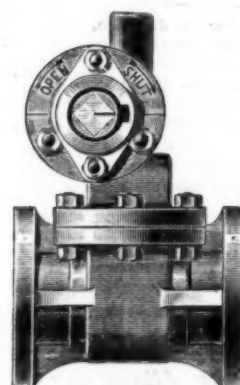
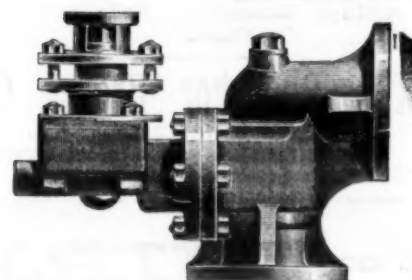


FIG. 254.



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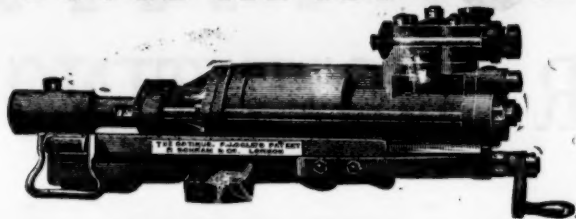
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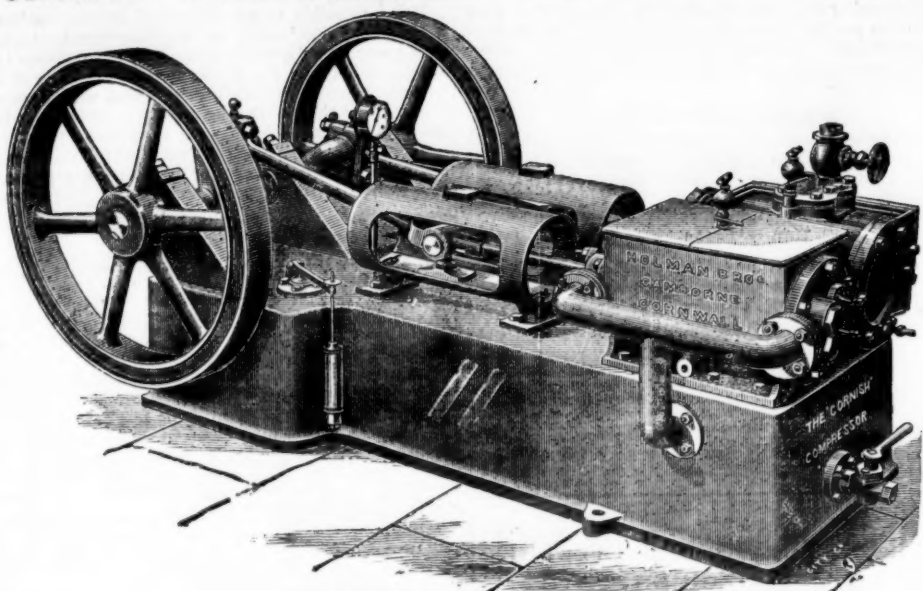
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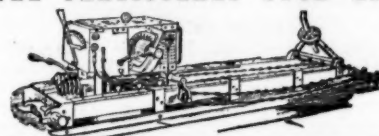
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NEW PATENTS.

LIST OF APPLICATIONS for New Patents relating to Mining Metallurgical, Engineering, Railway and kindred matters, specially compiled from official sources for the "Mining Journal" by Messrs. Rayner and Company, Patent Agents, 37, Chancery Lane, London, W.C., who will forward all information regarding them free on application.

- 15987 Emil Lawrence, Oppermann and Ewald Fischer, 132, Harley Road, Finsbury, London.—A new and improved method of amalgamating and extracting gold from ore by use of mercury fumes or vapour.—August 26.
- 15990 Arthur Hunsbale, 40, Cardigan Road, Tredegar Road, Bow, London.—Improved method or means of creating and giving additional power applied to velocipedes, locomotives, or any kind of machinery.—August 26.
- 16010 Percy Hulburd, 4, South Street, Finsbury, London.—Improvements in packing for hydraulic, steam, and other machinery.—August 26.
- 16041 Alfred Henry Williams, 87, St. Vincent Street, Glasgow.—Improvements in making railway spikes and the like.—August 27.
- 16028 Henry Culbeck Michell, 31, Southampton Buildings, Chancery Lane, London.—Improvements in the manufacture of flake mica.—August 27.
- 16009 William Arthur Granger, 102, Brooke Road, Stoke Newington, London.—Improvements in steam jet induced draught for boiler and other furnaces.—August 27.
- 16002 Henry Harris Lake, 45, Southampton Buildings, Chancery Lane, London.—Improvements in brake mechanism for railway and vehicles.—August 27.
- 16003 Charles Andrew Fisher, 45, Southampton Buildings, Chancery Lane, London.—Improvements in rotary engines.—August 27.
- 16004 Charles Andrew Fisher, 45, Southampton Buildings, Chancery Lane, London.—Improvements in rotary engines.—August 27.
- 16018 John Cameron and John King, 6, Lord Street, Liverpool.—Improvements in or applicable to water gauges for steam boilers or other purposes.—August 28.
- 16015 Frederick Algernon Holmes and John Devonport Blackwell, 47, Lincoln's Inn Fields, London.—Improvements in and connected with the furnaces of locomotive steam engines, applicable also to other furnaces.—August 28.
- 16054 Gabor Dobrentay, 45, Southampton Buildings, Chancery Lane, London.—An improved draught regulating or controlling device for furnaces.—August 28.
- 16057 Ernest John Clabbe and Alfred William Southey, 53, Chancery Lane, London.—Improvements in internal combustion engines.—August 28.
- 16061 Franz Marburg, Jun., Prince's Chambers, Wolverhampton.—Improvements in and relating to rotary pumps, engines, and blowers.—August 30.
- 16097 Alfred Metcalf Hewlett, 45, Southampton Buildings, Chancery Lane, London.—Improvements in furnaces.—August 30.

SPECIFICATIONS PUBLISHED.

15949, Bagley and others, furnaces, 1894; 15628, Thomas, miners' safety lamps, 1894; 30163, Mulready, furnace grates, 1894; 10409, Morrell, rotary cam pump, 1895.
The above specifications published may be had of Messrs. Rayner and Co., 37, Chancery Lane, London, at 10d. each, including postage.

JOINT-STOCK COMPANIES.

NEW REGISTRATIONS.

THE following are among the joint-stock companies registered at Somerset House since our last notice:—

- White Feather Renewal Gold Mining Company (Limited).—Registered by Ashley, Lumby, and Michael, 23, Birch Lane, E.C., with a capital of £75,000 in 4s. shares. Object: To adopt and carry into effect an agreement expressed to be made between A. J. Secretan of the one part, and this company of the other part, to acquire any gold mines, mining, water, or other rights, grants, leases, claims, concessions, options, auriferous land, &c., in West Australia or elsewhere, to develop and turn to account the same, and to carry on the business of a mining, milling, and smelting company in all its branches. The directors are to be elected by the signatories. Qualification, £100. Remuneration, £1000 per annum and a percentage of the profits, divisible.
- Western Witwatersrand Exploration Company (Limited).—Registered by G. W. Webb, 11, Austinfriars, E.C., with a capital of £300,000, in 1s. shares. Object: To adopt and carry into effect two agreements, each bearing date August 20, and made (1) between the Rand Western Syndicate (Limited) of the one part, and C. W. Hubbard, on behalf of this company, of the other part; and (2) between C. W. Hubbard of the one part and this company, of the other part; to acquire any mines, mining, water, and other rights, grants, leases, claims, concessions, options, &c.; to prospect for gold and other metals or minerals, in South Africa or elsewhere, and, generally, to carry on the businesses of miners, quarrymen, timber merchants, agents, general merchants, bankers, &c., in all or any of their respective branches. The directors are Captain A. E. Haggard, Hon. J. B. Montague, M.P., W. A. Wills, and S. Larkinson. Qualification 500 shares. Remuneration, £100 each per annum; Chairman, £500.
- Challenge Gold Estates Proprietary (W.A.), Limited.—Registered by Steadman and Co., 23, Old Broad Street, E.C., with a capital of £125,000 in 1s. shares. Object: To adopt and carry into effect an agreement expressed to be made between G. P. Doolette of the one part and this company of the other part; to acquire any mines, mining rights, grants, leases, claims, concessions, &c., in Australia or elsewhere; to develop and turn to account the same, and to carry on the business of a mining, milling, and smelting company in all or any of its branches. The directors are Sir H. de Trafford, Bart., J. L. Strain, A. Pomroy, G. P. Doolette, G. Brookman, and the Hon. A. Campbell. Qualification £100. Remuneration £150 each per annum.
- Lombardy Gold Mine (Limited).—Registered by Lindo and Co., 2 and 3, West Street, Finsbury Circus, E.C., with a capital of £64,000, in 1s. shares. Object: To adopt and carry into effect an agreement made July 6, between G. R. Statham of the one part, and C. Millar (on behalf of this company), of the other part; to acquire any mines, mining rights, grants, leases, claims, concessions, &c., in Australia or elsewhere; to develop and turn to account the same, and to carry on the business of a mining, milling, and smelting company in all its branches. The number of directors is not to be less than three nor more than seven. The first are C. Cammell, Commander-General, E. W. Blacker, A. P. Wilson, A. Mattel. Qualification, 500 shares. Remuneration, £1 0 each per annum and a share of profits.
- Adventurers Exploration (Limited).—Registered by Lucas and Ward, 6, Eldon Street, E.C., with a capital of £10,000, in 5s. shares. Object: To carry on a financial agency business in the United Kingdom, Western Australia, South Africa, or elsewhere. No names of directors given. Qualification, 250 shares. Remuneration, 50 guineas each per annum; Chairman, 25 guineas extra. Registered office: 5, Copthall Avenue, E.C.

Buluwayo Consolidated Gold Fields (Limited).—Registered by Goodchild and Hammond, 1, Queen Victoria Street, E.C., with a capital of £250,000, in 1s. shares. Object: To acquire certain gold mining claims, grants, leases, concessions, &c., acquired from the British South Africa Company and others by the Heriot Syndicate and others; to develop and turn to account the same, and generally to carry on the business of miners and smelters, farmers and graziers, meat and fruit preservers, metallurgists, quarry owners, &c., in all or any of their respective branches.

Hammond's Matabele Gold Mines Development (Limited).—Registered by J. B. Roberts, 72, Basinghall Street, E.C., with a capital of £200,000, in 1s. shares. Object: To adopt and carry into effect an agreement expressed to be made between Alfred Barton of the one part, and this company of the other part; to acquire certain mines, mining rights, grants, leases, claims, concessions, &c., in the Lower Gwelo District of Matabeleland, British South Africa; to develop and turn to account the same, and to carry on the business of a mining, milling, smelting, and metallurgical company in all or any of its branches.

Whittington Timber and Gold Estates Syndicate (Limited).—Registered by J. A. Maxwell, 97 and 98, Bishopsgate Street, E.C., with a capital of £3000, in 1s. shares. Object: To enter into an undated agreement and to prospect, examine, and explore any property or ground supposed to contain timber or minerals, &c., in Africa or elsewhere. Table A mainly applies.

CONTRACTS OPEN:

FOR MINE, QUARRY, RAILWAY, AND ENGINEERING WORK, STORES, &c.

* We shall be obliged by being promptly placed in possession of particulars regarding contracts open for competition, and of the results of successful tenders. In the latter case contract prices should be given.

The date given is that by which tenders must be delivered, in nearly all cases further information can be obtained on application at the addresses given. In applying for such the name of "The Mining Journal" should be mentioned as the original source of the information, concerning which further particulars are required.

HOME CONTRACTS.

Railway Construction. September 24 (Manchester).—For the construction of a branch line to the Manchester Ship Canal, for the Lancashire and Yorkshire Railway Company. Plans may be seen, and quantities, with forms of tender, obtained on application at the Engineer's Office, Hunt's Bank Manchester, on and after 25th inst.

Quay Wall. September 26 (Poole).—For the construction of a new quay wall, and dredging in connection therewith, for the Harbour Trustees. Copies of specification and bill of quantities may be obtained on application to the engineers, Messrs. Kinipple and Jaffrey, 3, Victoria Street, Westminster, where drawings of the works may be seen after 31st inst.

Coal. September 30 (Gravesend).—For the supply of good gas coal required during one or three years, to be delivered either free alongside their wharf south side of canal basin, Gravesend, or f.o.b. vessels in accordance with specifications, for the Gravesend and Milton Gaslight Company. The quantity required will be about 15,000 tons per year.

MINING NOTES FROM JOHANNESBURG.

By H. BUSH, M.E.

Pleiades Mine.

The claims are not on the line of reef, and on the present prospects the shares are valueless.

Cresus.

There was a profit of £4000 for last month, which amount would give about 2½ per cent. on the present price. The mine has not done what it was expected to do, as the owners expected to get fully £8000 a month.

Geldenhuis Estate.

Mr. Hoffmann, the manager, has reduced his mining, milling, and cyanide treatment to 22s. 1d. per ton. He hopes soon to make a further reduction. The profits from this mine are well over £10,000 per month. An extra 30 stamps are to be erected. The mine is opening out well, and the shares are a better investment than they are thought to be. The Reifontein reefs may be found in the northern portion of the estate.

Lancaster Mine.

Active work is being carried out on the battery reef series; the assays from 3 feet of ore average over 2 ounces to the ton.

York Mine.

This mine is opening out very good, and the shares are worth watching.

Sheba Mine.

There has been a wonderful improvement in the ore at the 9th level; the reef has also been struck at the eastern shaft (which is the deepest point in the mine) and the assays are very high. The prospects of this mine have improved wonderfully during the past few days, and the shares are now worth buying. The full 60 stamps are now at work, so there should be an increase of about 35 per cent. in the returns for this month. Mill returns 1 ounce to the ton, and 4 dwts. cyanide.

Witwatersrand Gold Mining Company.

By January next 60 stamps of the heavy type will be at work, and by the end of the year another 60 will be added. The shaft is down 500 feet, and the ore gives 17 dwts.

Cassel Collieries.

There is a new shaft going down, and increasing plant is being added, so that the monthly output will be brought up to 60,000 tons. The capital has been increased to £363,000, of which £10,000 is held in reserve. The present profit is 20 per cent. With the increased works, of course, profit must augment.

Driekoppies Diamond Mining Company.

This mine is now fairly on its feet. At the first level from 100 loads 7 carats were obtained. The management has been changed, and from date small profits may be expected to be increased in the near future.

Bantjes.

A meeting for the consideration and reconstruction of this company will take place in a few days at Kimberley. It is proposed to work this property on a much larger scale immediately. Mr. Donald, late of the May Consolidated, is now in charge. Shares are likely to go to a higher price.

Nigel.

The agreement to take over the Marais Nigel for 19,300 shares, with a further 20,000 shares offered at £8 to shareholders will give this company £120,000 cash. It is proposed to work a new battery with heavy stamps.

Spes Bona.

The development of this property under Mr. Johnston is proceeding apace, and it is expected that it will be so well advanced at the end of the year that the mill may be started. It may be interesting to know as an instance of how money can be saved in mining manipulation that a patent water purifier by Slack and Brownlow, of Manchester, has been erected. It is notorious that the water coming from low levels in a mine is largely impregnated with sulphate of iron, which means extensive corrosion of both tubes and plates and deposits of a hard incrustation. This apparatus consists of a vertical iron tank, inside which is a series of plates arranged in a spiral direction around a fixed centre and sloping at a considerable angle at both sides outwards. The water to be purified and softened comes down a large inlet-pipe mixing on its way with caustic soda, and entering the apparatus at the bottom, rises to the top, passing spirally round and round the central diaphragm. The solids and impurities deposit on the incline plates, and sliding down to the lowest points, where mudcocks are fixed, by opening these the sludge can instantaneously be removed. A large amount of settling takes place in the lowest chamber, and to remove this, a valve with lever handle is provided. The manager estimates that the saving to this company, by the use of this apparatus amounts to £850 per annum.

East Rand Gold and Coal Estate.

This is a freehold property equal to 8000 English acres; the country lies very flat. In bore-hole have struck the Cassel Colliery seam, but not through yet. The borehole is to be carried on, as there is every indication that the Nigel reef will run right through this property. When struck it will prove the continuance of the Modderfontein reef, and seem to point to the fact that the Nigel and Modderfontein reefs are identical. With a capital of only £160,000 this company already in its coal assets has an enormous value, and when the gold is reached these shares will go to £5. Mr. N. Williams, manager of the Witwatersrand Gold Mining Company, has joined the board, and is well convinced of its possibilities.

New Primrose

is to join interests with the May Consolidated. The astute Lippert has been buying up Mays, so that the share value should become equal to two Mays for one Primrose. The desired event has now happened. With the one at £4 and the other at £8, community of interests can take place, and now the one will rise £1 and the other £2. *Verb. sap.*

African Estates

Are in treaty to purchase farm Rustfontein, near Heidelberg, Rodepoort; good prospects. Heidelberg reef opening better than was expected, thorough prospecting and developing work being carried on. Dasepoort reef in this neighbourhood not continuing to good, though Captain Mien, of Robinson's, thinks the property a good mining venture.

Venterskroon Gold Mining Company.

Manager reports reef opening well; maintains assay value in shaft. Clearing ground for opening up tunnel to intersect shaft 200 feet vertical depth.

Molyneux Mines.

A new venture, fresh scrip issued, and run to 45s. with an upward demand. The property is large, and is partly opened up, proving the reef. Steady developing work is being carried on.

Buffelsdoorn Estates.

Output for July 4860 ounces, valued at £14,000. Paid in wages, £4300 to white men, £7000 to Kaffirs, £800 Kaffir food, lost or stolen £2000 raw gold. No profit for this month. A few years ago all this company had on its estates was locusts and a mortgage bond. The latter the French investor has removed; then the shares were 2s. 6d., now they are 170s. This company has only about £20,000 on its books as profit from gold mining—its proper business—and it looks like a long while before this company will or can pay legitimate dividends. It is a good suggestion that the legislature should stop in and prohibit promoters using the name of a known mine to foist other properties on the public. We have a dozen different kinds of Nigel, and yet there is only one Nigel, and there are over a dozen Buffelsdoorn neighbours of the original, and yet there is only one Buffelsdoorn.

Alexandra Estates.

Some 25,000 reserve shares have been taken up over par, which raises the working capital to £40,000, but even then they can not do much; it would be better to spend this sum in diamond boreholes for prospecting purposes and then refloat. Has a large plantation.

Randfontein.

The shares of this company are far below their value as a lock-up; will turn out well. Another reef has been struck by its neighbour the African Gold Recovery, in a borehole, assaying 2 ounces. This runs right into the Randfontein Estate.

Barnato Consolidated

have acquired the New Aurora West and some 250 claims near the Steyn Estate, and some farms and claims at Heidelberg.

French Rand Mines.

This mine will undoubtedly become a very valuable property.

THE MINERAL RESOURCES OF SOUTH STAFFORDSHIRE.*

By HERBERT W. HUGHES, F.G.S., Assoc.R.S.M., Assoc. M.Inst.C.E.

THE South Staffordshire coal field has been compared to an island of Palaeozoic rocks surrounded by newer formations on all sides. The general form of the district is that of a rude, irregular, spindle-shaped band, bent so as to have both its sides convex to the west, and terminating in a point both to the north and south.

The coal field differs in its geological structure from the other coal fields of England, inasmuch as the coal measures repose directly on the Upper Silurian formation, the Carboniferous limestone, Millstone grit, and Devonian being absent. The Silurian rocks protrude through the overlying strata at Walsall, Dudley and Sedgley, causing a very distinct line of division in the coal field. This upheaval of Silurian rocks commences at Parkfield, south of Wolverhampton, passes through Sedgley to Dudley, and thence to Leasowes by the basaltic Rowley Hills and a steep western slope that runs from them to the south. The line from Parkfield to Dudley forms a broad anticlinal ridge around which all the coal measures crop out and take a north-westerly direction until they turn north of Bilston; for some distance they then run somewhat parallel with the Bentley fault, until turned in a south-easterly direction by the Walsall Silurian district, against which the coal measures again crop out, and the Silurian rocks appear beneath.

There is a second ridge of Silurian rocks first revealed by the sinking of the Heath pits at West Bromwich, which extends from that point for a distance of at least 3 miles to the south. In this case the Silurian rocks do not reach the surface, but are concealed by coal measures; they probably formed an old Silurian bank of rising ground during the coal measure period. This bank formed the boundary of the coal field until the sinking at Sandwell Park Colliery proved the existence of coal beyond. The writer is able now, for the first time, to state that recent explorations at Sandwell Park Colliery have found the existence of a second concealed ridge of Silurian rocks, lying at a distance of some yards from the first bank; its general direction is the same as the former, but its extent has not yet been proved.

The coal field is bounded on the east and west by large faults, running approximately north and south, bringing in the New Red sandstone. These faults are regular and equable, preserving a mean course with persistency, and where curving, doing so gradually with a wide and steady sweep. For some time it was debated whether the east and west boundaries were of the nature of cliffs or faults. If cliffs, a great portion of the coal between this coal field and others would have been removed by denudation. The Sandwell Park and Hamstead sinkings, which reached the 10 yard coal at the respective depths of 420 yards and 620 yards, disproved the cliff theory so far as the eastern boundary was concerned. No proofs have yet been undertaken over the western boundary fault, but bearing in mind the similarity between it and the eastern boundary fault, and the satisfactory proof over the latter, the probabilities are that coal will be found to exist under the New Red sandstone formation beyond the main western fault.

The coal field is divided into two portions, differing in a very distinctive manner from each other by a large dislocation running approximately east and west, and known as the Great Bentley fault. In the Cannock Chase district, which may be taken to extend from the Bentley fault to a short distance south of the town of Rugeley, the Thick coal, which is a distinctive feature of the central and southern portion of the coal field, is split up into a number of seams, distributed through a depth of several hundred feet of strata. The southern boundary of the coalfield is formed by the Silurian bank of the Lickey Hill's, but the Thick coal and other measures have died out before that point is reached.

The characteristics of the two districts separated by the Bentley fault are so different that it is impossible to give a general description applicable to each. One point common to both is the frequency and extent of throw of dislocations. Faults of from 20 to 40 yards are of frequent occurrence, and larger ones are by no means uncommon. A noticeable feature with the faults is the suddenness with which they often increase or decrease in throw. All over the coal field the measures repose on Silurian shales; but in the northern part the strata between the lowest coal seam and the Silurian is thicker than it is in the southern district. The thickening of these measures gradually increases as they range from south to north. For the above reasons, and as, in addition, the coal seams of the northern division are chiefly used for domestic purposes, the writer proposes to deal chiefly with the mineral resources of the central and southern portions of the coal field.

* From a paper contributed to the Iron and Steel Institute.

Vertical Succession of Strata in the Central and Southern Districts.

The coal measures of this district are made up of a series of alternating beds of clay, shale, sandstone, coal, and ironstone interstratified with each other, and varying in thickness and extent. Speaking generally, the beds of coal are more constant in thickness than the beds of other material. Next in constancy and persistency are found the finer-grained rocks composed of argillaceous materials, while the sandstones and coarser-grained rocks formed of arenaceous materials are most capricious, varying frequently in thickness and character.

It is impossible to give a general section applicable in all its parts to any one locality south of the Bentley fault, as frequent changes occur both in the grouping and quality of the beds, consisting chiefly in the thickening or thinning of the measures between the coals, separating coals that were together, or bringing together those that were separate; sometimes the same seam becomes thicker in one place than in another, or thins out to occasionally disappear altogether. The following section includes every workable bed of coal or ironstone in its proper place in the series, without regard to the locality in which it occurs:—

General Section.*

	Feet, Feet.
1. Beds above the Upper Sulphur Coal (in the Halesowen Sandstone Group; 15, the Red Coal measure clays ... from 600 to 800	1
2. Upper Sulphur Coal ... about 1	2
3. Intermediate measures ... 140	3
4. Two-foot Coal ... 2	4
5. Intermediate measures ... from 2 to 4	5
6. (I.) Brooch Coal ... about 7 to 20	6
7. (I., 1) Brooch bluish ironstone measures ... about 7 to 20	7
8. Herring Coal (not known north of Dudley) ... from 7 to 21	8
9. (I., 2) Pinnas and Pennysarth ironstone measures ... from 7 to 21	9
10. Intermediate measures containing the sandstone known as the Thick Coal rock ... from 58 to 157	10
11. (I., 3) Broad earth, catch earth, and batt, containing the Ten-foot ironstone in the Pennsant district ... from 6 to 14	11
(II.) Roofs Coal or Top Floor ...	
(III.) Top Slipper, Spikes or Spire Coal ...	
These two form the Flying Reef when separated from the coal below ...	
(IV.) Jays or White Coal ...	
(V.) Lambs, Floors or Fine Fleurs Coal ...	
These two are often either mentioned together under the name of White Coal, or else the lower one is absent ...	
(VI.) Tow (tough) or Heath Coal ...	
(VII.) Benches Coal (this bed is but rarely mentioned) ... about 30	12
(VIII.) Brasils or Corns Coal ...	
(IX.) Foot Coal or Fine Coal ...	
(X.) John Coal, Slips or Veins Coal ...	
(XI.) Stone or Long Coal ...	
(XII.) Patchells Coal (sometimes absent or not mentioned) ...	
(XIII.) Sawyer or Spring Coal ...	
(XIV.) Slipper Coal ...	
(XV.) Bottom Benches, Omfray (Humphrey), Red, Kid, Dice, or Holers Coal ...	
13. (I., 4) Puncell batt, Biactery, and Whiterly, containing the Grains Ironstone, and sometimes the Whiterly Ironstone ... from 2 to 8	13
14. (I., 5) Gubbin Ironstone measures, sometimes called the Little, Top or Thick Coal Gubbin, sometimes the Black Ironstone ... from 2 to 8	14
15. Table batt and intermediate measures ... from 2 to 12	15
16. (XVI.) Heathen Coal ... from 8 to 7	16
17. Intermediate measures (sometimes wanting) ... from 9 to 4	17
18. (XVII.) Rubble or Lower Heathen Coal, sometimes when the measures above are wanting, forming the bottom part of the Heathen Coal, sometimes itself wanting, when the measures above and below seem to be both present ... from 2 to 4	18
19. (I., 6) Intermediate measures containing, at Bentley, the ironstones known as the Lambstone and Brownstone ... from 10 to 23	19
20. (I., 7) New Mine or White Ironstone ... from 2 to 10	20
21. (I., 8) Measures containing the Pennysarth Ironstone, called also Bluestone or Oakes ... from 10 to 15	21
22. (XIX.) Sulphur Coal ... from 2 to 9	22
23. Intermediate measures ... from 3 to 39	23
24. (XX.) NEW MINE COAL ... from 2 to 1	24
25. (I., 9) Measures containing the Fire-clay balls, ironstone occasionally ... from 2 to 4	25
26. (XXI.) FIRE-CLAY (and partings) ... from 1 to 14	26
27. Intermediate measures ... from 2 to 13	27
28. (I., 10) Getting rock ironstone (occasional) ... from 4 to 5	28
29. (I., 11) Poor Robin ironstone measures ... from 3 to 5	29
30. Intermediate measures, sometimes wanting ... from 0 to 9	30
31. (I., 12) Rough Hills White Ironstone (occasional) ... from 2 to 19	31
32. (XXII.) BOTTOM COAL ... from 3 to 11	32
33. Intermediate measures ... from 5 to 27	33
34. (I., 13) Gubbin and Balls ironstone, sometimes called the Great or Bottom Gubbin ... from 3 to 10	34
35. Intermediate measures ... from 18 to 20	35
36. (XXIII.) SINGING or MEALY GREY COAL (occasional) ... from 2 to 4	36
37. Intermediate measures ... from 16 to 5	37
38. (I., 14) Blue Flats ironstone ... from 2 to 9	38
39. Intermediate measures ... from 10 to 14	39
40. (I., 15) Silver Threads ironstone ... from 4 to 7	40
41. Intermediate measures ... from 6 to 15	41
42. (I., 16) Diamonds, ironstone ... from 2 to 7	42
43. Lowest measures, maximum thickness known below the diamonds ironstone ... about 50	43

The variations in thickness do not take place indiscriminately, but according to a general rule, the least thickness being invariably found to the south, while the greater thicknesses come in regularly in a northerly direction, until north of Bilston, where the Thick coal has been denuded and the lower measures rise to the surface.

Brooch Coal.—This may be taken as the uppermost workable coal; it is of excellent quality, and is in great request for household purposes. It attains its maximum development in the district around Dudley, more especially in the south-western portion adjoining Kingswinford and Himley. In some parts the 2 foot coal is only divided from the brooch by a parting from 1 to 2 feet thick, the two seams being then worked together. Although this increases the thickness of coal yet it is not an unmixed blessing, as the 2 foot coal is of inferior quality, and its mixture with the brooch has a detrimental effect on the demand. The method of mining generally adopted is pure longwall, working outwards. The brooch binds ironstone attains its maximum value in the Corbys Hall and Shut End districts, and is got in a chance manner when working the brooch coal. The ore is of excellent quality, being very free from phosphoric acid. It contains about 33 per cent. of iron.

Thick Coal.—This celebrated seam has distinguished the South Staffordshire coal field from all others. It is composed of a number of beds of coal varying in number from eight to fourteen, resting either directly on one another or separated by thin beds of clunch or shale called partings. Each of these beds of coal has distinct lithological characters, and can be recognised by a thick coal miner, and referred at once to its position in the seam. These beds have received distinctive names peculiar to the parts of the district in which they are worked (consult vertical section of strata).

The natural cleavage of one bed of this seam is no criterion as to the line of cleavage of the one lying immediately above or below it; indeed the faces so cross and recross each other that practically no regard is paid to them.

* Each group of beds is numbered in consecutive order, the workable coal having an additional number in Roman figures, and the ironstones an additional number with I. before it.

† The coals thus marked are not numbered, as they have never yet been worked separately.

‡ In some parts of the coal field these ironstones are exceptionally rich in fossil remains, both fauna and flora.

§ Beds numbered as XV., XIV., XIII., XI., X., IX., VIII., VI., with either IV. or IV. grouped as the White Coal, are always present wherever the Thick Coal is at all in the normal condition; where III. and II. have gone as the Flying Reef, the White Coal is always the top measure; the beds numbered VII. and XII. are often omitted, either being absent or being grouped with the one above or below them.

¶ Above Bentley there is an ironstone in these measures which is there called the Blind Ironstone, and it has a coal called the Blind Coal associated with it, which is sometimes 14 inches thick.

The following section, taken at Parkhead, one mile south-west of Dudley, is typical of the normal seam as found over a considerable area.

	Feet.	Inches.	Feet.	Inches.
Roofs and spires ...	4	4	—	—
Batt ...	—	—	0	3
White coal ...	3	9	—	—
Heath coal ...	4	6	—	—
Brazils ...	2	0	—	—
Velas and fine coal ...	4	6	—	—
Hardstone parting ...	—	—	0	3
Patchells and stone coal ...	4	6	—	—
Sawyer ...	2	0	—	—
Slipper ...	3	0	—	—
Bench ...	2	9	—	—
Total thickness of coal ...	31	4	—	—
Total thickness of partings ...	—	—	0	6

South and west of Brierley Hill, between the Netherton anticlinal and the Western Boundary fault the distinctive features of the thick coal, in places, are completely lost. The coal becomes greatly deteriorated in quality and character, and is split up and interstratified alternately with batt and rock, which necessitates at some places from two to even four separate workings. At one part of Brettell Lane the coal is divided in four separate sections which combined give the usual thickness of 30 feet, but are found occupying 83 feet of measures. At The Lye still greater peculiarity is experienced in the stratification of the measures, as there is 9 feet of spoil interposing between the bottom and middle coals, and 33 feet between the middle and top; the total thickness of coal being but 19 feet, and occupying a thickness of 60 feet of measures. Southwards from The Lye the stratification of the measures becomes more irregular, and there is a growing deterioration in the quality of the coal.

West from Dudley a change comes over the grouping of the beds comprising the thick coal, as in the Himley district the phenomenon of the flying reed coal is encountered. Here the white coal constitutes the roof of the thick coal, the beds generally above this forming a distinct seam known as the flying reed, separated from the remainder of the thick coal by measures varying from 6 inches to 130 feet in thickness. A section taken 3½ miles a little south of west from Dudley gives:—

	Feet.	Inches.	Feet.	Inches.
Flying reed coal ...	3	0	—	—
Sandy measures ...	—	—	128	0
Thick coal ...	22	8	—	—

North from Dudley the Thick coal maintains its general characteristics and thickness for about three miles, when the separation of the flying reed is again encountered. In addition the hard stone parting, which divides the thick coal into about equal portions, and which is of marked persistency all over the coal field, begins to increase in thickness. At Highfields, near Bilston, the flying reed coal is 204 feet above the Thick coal. At Bilston, the flying reed coal has "cropped out," and the hard stone parting has increased to 10 feet in thickness, receiving here the distinctive name of "Hob and Jack."

Leaving the thick coal for a time, it may be stated that the splitting up of the coal seams is not confined to the thick coal, as a similar result is noted in the bottom and new mine coals, the separation of these two being easy to follow. In the northern or Cannock Chase portion of the South Staffordshire coal field no Thick coal exists, although there is as great an aggregate thickness of coal there as in the southern part; and if we consider the thick coal to be composed of from 12 to 14 seams, the number of seams in both parts of the coal field is nearly alike. In view of these facts, it is now generally admitted that the seams in the northern part of the coal field are the same as those in the southern portion, only separated from each other by beds of shale, &c., the beds at Essington and Bentley being the representatives of the Thick coal. This separation takes place in a horizontal distance of five miles.

Over the Eastern Boundary fault, as proved by the Sandwell sinking, the Thick coal consists of 23½ feet of coal and 9 inches of partings. There is, however, a gradual tendency for the seam to divide up in an easterly direction towards Birmingham, and to diminish slightly in thickness. Although coal probably exists beneath the entire area between Birmingham and the Warwickshire coal field, yet the depth will in places be so great as to render it unworkable with our present appliances. It is also doubtful whether the Thick coal will maintain its entirety; in the writer's opinion, a similar separation to that encountered in the northern portion of the coal field is more likely to be found.

The possession of the Thick coal was, without doubt, mainly responsible for the high position which South Staffordshire took as a coal and iron producing district some 30 years ago. Not only was the seam cheaply mined, but the character of the coal was eminently suitable for the manufacture of iron as required by the market in those days. It is classed with the non-caking bituminous varieties, and is the first departure from coals of the lignitic type. It burns with a long flame, is comparatively free from sulphur and ash, and has been, and still is, mainly employed for the manufacture of iron, being used both in the blast-furnace and in the wrought-iron mills and forges. The calorific power, determined by Thompson's calorimeter, proves that one part of coal will evaporate about 14 parts of water into steam at a temperature of 212° Fahr., the loss being probably due to the large amount of moisture (11 to 12 per cent.).

The method of working adopted is one peculiar to the district and to the seam. Broadly speaking, it consists in dividing the area into a series of rectangular chambers called "sides of work" which are separated from each other by ribs or walls of coal from 8 to 10 yards thick. Inside each chamber, stalls 10 yards wide are driven, crossing each other at right angles, leaving blocks of coal, called pillars, some 9 yards square. These pillars partially support the roof, and no attempt in ordinary cases is made to remove them.

Gubbin Ironstone and Heathen Coal.—These two seams may be treated as one, as they are greatly worked together.

The Gubbin ironstone is one of the most constant beds in the whole district. The measures usually consist of dark clunch, varying from 2 to 7 feet thick, and containing from two to three bands of ironstone in isolated nodules. A typical section taken in the centre of the coal field is as follows:—

	Ft. In.	Ft. In.
Ironstone ...	0 6	—
Dark clunch ...	—	2 0
Ironstone ...	0 7	—
Dark clunch ...	—	2 0
Ironstone (rubble) ...	0 4	—
Black batt ...	—	0 6
	1 5	4 6

The average yield per acre of mine gotten of this ironstone obtained from several collieries situated in the area where the seam is of normal quality is 1305 tons. There are, however, many places at the present time where the yield is not so great, some instances giving as low as 910 tons per acre. The quality of the stone is, however, very good, and it is much prized as a mixture with other ironstones. From its carbonaceous nature it is calcined for the blast-furnace with a small expenditure of fuel, and in the furnace itself is smelted with a very low consumption of coke. Its high price (12s. 6d. per ton for 38 per

cent. of metallic iron) prevents its use to any great extent except for cold-blast irons. The latter remark applies to all the other ironstones.

The variation in the percentages of phosphorus in the Gubbin ironstone is considerable. On the east side of Dudley it runs to 0.34 per cent., whilst on the west side it is found as low as 0.12 per cent.

The heathen and rubble coals are taken together, as there is no doubt that the rubble coal of the northern part near the Bentley fault is the lower heathen coal of the southern portion of the district where the intermediate measures are wanting. This is a well-marked bed over the whole of the coal field, varying from 1½ to 10 feet thick. It has been mainly used for the manufacture of coke for the blast-furnace and for gas making.

(To be Continued.)

SOUTH AUSTRALIAN LETTER.

(FROM OUR OWN CORRESPONDENT.)

ADELAIDE, JULY 30.

SATISFACTORY progress generally is reported from our various gold mines. Considerable improvement is reported from the Virginia and Milo mines at Wadnaminga, and having visited them only last week I am able to state that the improvement is genuine. The effect of it has been very perceptible on 'Change during the last two or three days, when there has been something like a boom in shares at advanced rates. This is especially satisfactory in the case of the Virginia Mine, as quite recently it showed a falling-off in returns, and shares fell in price in consequence. The improvement being so marked as the depth increases is a very favourable indication of what may be expected in future.

At Angipena in the North, four shafts are being sunk by different parties on the big iron reef; they are not yet down more than about 40 feet, but the gold in the bottom is much richer and coarser than it was nearer the surface. Samples from the Treasure Mine assayed within a pennyweight of 10 ounces to the ton. The reef is being tested at several spots for over half-a-mile in length. Fresh samples have since given assays up to 21½ ounces of gold per ton; and a parcel of 5 tons of stone has been sent to cyanide works for treatment. This reef promises to develop into something of considerable importance.

The recent discovery at Donkey Gully, Echunga, is turning out wonderfully rich. The gold-bearing formation is a loose mullocky lode, interspersed with loose veins of quartz a few inches (2 to 6) in thickness. The material when broken out and washed in tubs, yields several ounces of gold to the tub—6 or 8 ounces from one tubful—while ½ ounce would pay handsomely. Mr. Bell, the discoverer, got 48 ounces for one week's work, worth, at least, £150, or £30 for each day, on the average.

The veteran gold miner, Mr. Patrick Hynes, has lately opened fresh ground on his property near Blumberg, and has been very successful, having obtained by puddling in three weeks over 70 ozs. of gold, including nuggets up to 6 ozs. in weight. Another part of the same section of land was worked about 18 years ago by Mr. Hynes, who got out several hundred pounds' worth of gold, but at that time he had no idea that the Royal metal was to be found in the other portion of his land. The auriferous soil, which is only 3 feet in depth, consists of pipelay mixed with pieces of soft slate. During the last few months two or three diggers besides Mr. Hynes have obtained several hundred pounds' worth of gold from the same section. Two or three miles from this another rich piece of land is yielding splendid returns of gold.

Another gold field which bids fair to become a large and important one is Taltabooka, about six miles east of Wadnaminga, and comprising several square miles of auriferous country. I lately inspected four or five of the mines here, and formed a high opinion of their appearance. The lodes are generally wider, and have a better underlay than those at Wadnaminga. They have been opened by comparatively poor men, who have not had the means of providing machinery, consequently no quantity of the stone has been treated. In some cases, however, a few tons have been put through the Milo battery, and the results have been very satisfactory. Returns from different trials have varied from 17 dwts. to over 4 ounces of gold to the ton of stone. The reefs are from 18 inches to 8 or 9 feet in width, and, being in very favourable country, can be easily worked, and should yield a profit if the returns of gold were only 1 ounce per ton. There is a fine well of water, 90 feet deep, in the midst of these mines. The deepest shaft at present is about 120 feet on the underlay of the lode.

There is considerable excitement about the discovery of a bituminous substance near the mouth of the River Glenely, on the south coast, close to the Victorian boundary. Several prominent individuals have visited the locality, and witnessed an apparent phenomenon, as if a dark fluid matter were forced up from the bottom of a few feet under the waves, and then became mingled with and diffused through the surrounding water. The Government Geologist could find no traces of bitumen in the rocks or on the beach, and considered that the lumps of bitumen that had been found there were "probably erratic fragments washed up from some source at present unknown, like those which have been discovered from time to time along the coasts of Kangaroo Island, Yorke's Peninsula, and Port Lincoln." The dark matter, which was apparently forced up from the bottom and mixed with the waves, was collected as well as circumstances allowed, and on being analyzed by Mr. Goyder, was found to consist of finely comminuted seaweed, without any trace of mineral oil or bituminous matter.

Nevertheless, while this may dispose of the theory that bitumen is forced up from beneath the waves, there is no doubt that lumps of bitumen have been found in the neighbourhood, as the Government geologist admits; the problem presented for solution being to find the locality whence the substance came from. At least two strong syndicates have been formed to prospect the neighbouring ground, and a considerable length along the shore has been pegged off and applied for. The lumps of bitumen are genuine enough wherever they came from; they burn freely, and emit a slight odour resembling that of kerosene. The stuff has been used by residents for pitching their boats, &c. It is altogether different in appearance and composition from the "Coorongite," from which brilliant kerosene has been manufactured.

ACCORDING to the *Indian and Eastern Engineer*, the Mysore Government has granted to Mr. E. P. Oakshot and others a concession in regard to an area of 1 square mile of land in the Nenjegode district, and gold mining operations have been commenced thereon. The agreement, granting the syndicate surface rights with regard to this land, has been executed and registered, and the opening ceremonies were performed last week, when a commencement was made with the sinking of a shaft. The land is in a "auspicious hour" for the opening was fixed by the Swami of Nenjegode taluk, whose agent, accompanied by a priest, performed the ceremonies referred to.

MINING IN COLORADO.

THREE TUNNEL ENTERPRISES.

(FROM OUR OWN CORRESPONDENT.)

AS an illustration of the practically inexhaustible mineral wealth, more particularly of gold, of Colorado, a brief account of three tunnel enterprises now being pushed forward will probably interest your readers.

Clear Creek empties into the Platte river, a few miles below Denver. It drains the counties of Gilpin and Clear Creek, which have been heavy gold producers since 1859, Gilpin alone in that time having produced £15,000,000 sterling of mineral, mostly gold, and Clear Creek county a proportionately large amount.

At forks of the Creek, 29 miles from Denver, the north fork of the stream, having its origin in Gilpin county, and coming down through Central City and Black Hawk, empties into the main stream, which latter comes down from above Georgetown through the town of Idaho Springs. Idaho Springs, Clear Creek County, while less than 4 miles in an air line from Central City, Gilpin county, is about 1100 feet lower in altitude, and between the two towns runs the boundary line of the two counties.

The north fork, a very small stream indeed, at Black Hawk, is lined with stamp mills aggregating about 500 stamps, while along the main stream below, at and above Idaho Springs, attracted by the much larger volume of water, the last seven years has seen established 15 stamp mills or concentrating works, or both, mostly operated by water-wheels. The richer ore of the local mines, representing about 1-10th of the gross product, is shipped direct to the smelters at Denver, while the lower-grade ores, representing about 9-10ths of the gross product, are treated by these stamp mills or concentrating works, the concentrates being also shipped to the smelters.

The existence of these numerous plants amply attests to the number and value of the local mines; and, as a matter of fact, there are in Gilpin county alone about 200 shipping mines, large and small, and a considerable number around Idaho Springs, on the Clear Creek county side of the boundary. In Gilpin county there are ten mines which have passed the £200,000 mark in their production. There are five to ten shafts reaching a depth of from 1200 to 2200 feet, and perhaps 20 mines ranging from 700 to 1200 feet in depth, with many of lesser depth.

These mines are operated at very considerable expense for pumping water, hoisting ore, and hauling such ore down to the railway tracks; and in consequence of such excessive cost, the working of some of them has been temporarily abandoned, as there was no margin of profit left, notwithstanding the existence of large bodies of ore. In practically every case the deepest workings revealed the continuance of ore in undiminished quantity, and of much the same quality.

In the triangle of territory, bounded on the one side by the North Fork in its course from Nevada, through Central City and Black Hawk, and on the other side by the main stream through Idaho Springs, there are scores of such mines which, during the last 30 years, have produced ore of the value of many millions of pounds sterling. Taking advantage of the fact that Idaho Springs on the main stream is not only 1100 feet lower than Central City, but has railroad communication with Denver at an easy water grade, and also abundance of water for ore treatment purposes, the plan has been simultaneously conceived by various parties of running long tunnels, at a slight upgrade, practically from the line of railroad below and above Idaho Springs in the direction of the rich mines in the above-mentioned triangle, and by tapping such mines from below, not only to drain them automatically, but to take out the ore by natural gravity to the railroad tracks for shipment to the Denver smelters or to the existing local ore treatment works along the banks of the stream above and below Idaho Springs, also to construct cyanide and other improved ore treatment plants on the most modern principles in connection with such tunnel enterprises.

The first of these is the Newhouse Tunnel, being constructed by British capital. It enters the mountain a short distance below Idaho Springs. Its total length will be nearly 4 miles, running under Seaton Mountain, Russell Gulch, and Quartz Hill, and will take several years to complete. The tunnel runs at a depth of 2500 feet below Seaton Mountain, and at its proposed terminus, near Central City, will be pretty deep. It is expected to cut over 300 known veins, exclusive of "blind" veins—that is, veins not known on the surface, and which will belong to the tunnel. It is 12 feet wide by 12 feet high, is already in ½ mile, and is being rapidly pushed by means of double shifts of men and Leyner air drills operated by powerful compressors.

The second enterprise, the United States Tunnel, is as yet only at its commencement, and it is said will be constructed by French and Dutch capital. It starts in about ½ mile above Idaho Springs, about 1½ mile west of the Newhouse Tunnel. It is proposed to run it about 3½ miles under Belle Vue Mountain, the head of Virginia Canon, Russell Gulch, Quartz Hill, and Gunnell Hill, but as yet it is only in between 200 and 300 feet by hand work, and air-compressors have not, so far, been put up for the operation of air-drills.

The third enterprise is the Philadelphia Tunnel being constructed by Philadelphia capitalists primarily to tap their own mining properties. It starts in on Fall river (a tributary of Clear Creek) about 4 miles above Idaho Springs. It is already in about 2700 feet, and another 1000 feet has been contracted for, 3000 feet being required to cross-cut their own property. It will be further continued to a total length of 2½ miles to tap the Nevada Gold Belt at its terminus, being about 1000 feet below the surface. It is about 8 feet by 9 feet in size, and is expected to cost altogether about £100,000.

Briefly stated, these three tunnels will undermine at an average depth of from 1000 to 2000 feet, a mountain chain or group about 4 miles in diameter, traversed by an extraordinary number of parallel true fissure gold and silver bearing veins, the richness of many of which has been satisfactorily proved, while the existence and richness of the others is fairly assumed.

Any attempt to predict the probable gold product of these tunnels would be regarded as gross exaggeration. Their courses have been carefully laid out, so as to tap or be easily accessible to mines which have in the past been great producers, and to such mines the immense saving of the present expense of pumping water and hoisting ore will justify liberal payments of rents and royalties to the tunnel companies. The blind, or at present ownerless veins, will constitute an important source of revenue, and as each of the tunnel enterprises also includes projects for ore treatment plants, it is self-evident that the next few years will see wonderful mining development in that special locality, and a very marked increase in the gold product of Gilpin and Clear Creek counties (both of them very small counties), which, even under present conditions, is about £1,000,000 sterling per annum.

THOMAS TONGE

THE BRITISH ASSOCIATION.

EXTRACTS FROM THE PRESIDENT'S ADDRESS.

THE following extracts, referring to the subjects with which the Journal more directly treats, are taken from the President's Address, delivered on Wednesday last, at the annual meeting of the British Association:—

The True Plane.

The accuracy of workmanship essential to this development of mechanical progress required very precise measurements of length, to which reference could be easily made. No such standards were then available for the workshops. But a little before 1830 a young workman named Joseph Whitworth realised that the basis of accuracy in machinery was the making of a true plane. The idea occurred to him that this could only be secured by making three independent plane surfaces; if each of these would lift the other they must be planes and they must be true. The true plane rendered possible a degree of accuracy beyond the wildest dreams of his contemporaries in the construction of the lathe and the planing machine, which are used in the manufacture of all tools. His next step was to introduce an exact system of measurement, generally applicable to the workshop. Whitworth felt that the eye was altogether inadequate to secure this, and appealed to the sense of touch for affording a means of comparison. If two plugs be made to fit into a round hole, they may differ in size by a quantity imperceptible to the eye, or to any ordinary process of measurement, but in getting them into the hole the difference between the larger and the smaller is felt immediately by the greater ease with which the smaller one fits. I this way a child can tell which is the larger of two cylinders differing in thickness by no more than one five-thousandth of an inch. Standard gauges, consisting of hollow cylinders with plugs to fit, but differing in diameter by the one-thousandth or the ten-thousandth of an inch, were given to his workmen, with the result that a degree of accuracy inconceivable to the ordinary mind became the rule of the shop. These advances in precision of measurement have enabled the degree of accuracy which was formerly limited to the mathematical instrument maker to become the common property of every machine shop. And not only is the latest form of steam-engine, in the accuracy of its workmanship little behind the chronometer of the early part of the century, but the accuracy in the construction of experimental apparatus which has thus been introduced has rendered possible recent advances in many lines of research. Lord Kelvin said, in his presidential address at Edinburgh, "Nearly all the grandest discoveries of science have been but the rewards of accurate measurement and patient, long-continued labour in the sifting of numerical results." The discovery of argon, for which Lord Rayleigh and Professor Ramsay have been awarded the Hodgkin prize by the Smithsonian Institution, affords a pregnant illustration of the truth of this remark. Indeed, the provision of accurate standards not only of length, but of weight, capacity, temperature, force, and energy are amongst the foundations of scientific investigation.

The Geological Survey.

At the foundation of the Association geology was assuming a prominent position in science. The main features of English geology had been illustrated as far back as 1821, and among the founders of the British Association, Murchison and Phillips, Buckland, Sedgwick and Conybeare, Lyell and De la Beche were occupied in investigating the data necessary for perfecting a geological chronology by the detailed observations of the various British deposits and by their correlation with the Continental strata. They were thus preparing the way for those large generalisations which have raised geology to the rank of an inductive science. In 1831 the Ordnance maps, published for the Southern counties, had enabled the Government to recognise the importance of a geological survey by the appointment of Mr. De la Beche to affix geological colours to the maps of Devonshire and portions of Somerset, Dorset, and Cornwall; and in 1835 Lyell, Buckland, and Sedgwick induced the Government to establish the Geological Survey Department, not only for promoting geological science, but on account of its practical bearing on agriculture, mining, the making of roads, railways, and canals, and on other branches of national industry.

Chemistry: A Vanished Barrier.

The report made to the Association on the state of the chemical sciences in 1832 says that the efforts of investigators were then being directed to determining with accuracy the true nature of the substances which compose the various products of the organic and inorganic kingdoms, and the exact ratios by weight which the different constituents of these substances bear to each other. But since that day the science of chemistry has far extended its boundaries. The barrier has vanished which was supposed to separate the products of living organisms from the substances of which minerals consist, or which could be formed in the laboratory. The number of distinct carbon compounds obtainable from organisms has greatly increased; but it is small when compared with the number of such compounds which have been artificially formed. The methods of analysis have been perfected. The physical, and especially the optical, properties of the various forms of matter have been closely studied, and many fruitful generalisations have been made. The form in which these generalisations would now be stated may probably change, some, perhaps, by the overthrow or disuse of an ingenious guess at Nature's workings, but more by that change which is the ordinary growth of science—namely, inclusion in some simpler and more general view. In these advances the chemist has called the spectroscopist to his aid. Indeed, the existence of the British Association has been practically continuous with the comparatively newly-developed science of spectrum analysis, for though Newton, Wollaston, Fraunhofer, and Fox Talbot had worked at the subject long ago, it was not till Kirchhoff and Bunsen set a seal on the prior labours of Stokes, Angström, and Balfour Stewart that the spectra of terrestrial elements were mapped out and grouped; that by its help new elements were discovered, and the idea was suggested that the various orders of spectra of the same element are due to the existence of the element in different molecular forms—allotropic or otherwise—at different temperatures. But, great as have been the advances of terrestrial chemistry through its assistance, the most stupendous advance which we owe to the spectroscopist lies in the celestial direction.

Physics: Magnetism and Electricity.

If we turn to the sciences which are included under physics, the progress has been equally marked. In optical science in 1831 the theory of emission as contrasted with the undulatory theory of light was still under discussion. Young, who was the first to explain the phenomena due to the interference of the rays of light as a consequence of the theory of waves, and Fresnel, who showed the intensity of light for any relative position of the interference-waves; both had only recently passed away. The investigations into the laws which regulate the conduction and radiation of heat, together with the doctrine of latent and of specific heat, and the relations of vapour to air,

had all tended to the conception of a material heat, or caloric, communicated by an actual flow and emission. It was not till 1834 that improved thermometrical appliances had enabled Forbes and Melloni to establish the polarisation of heat, and thus to lay the foundation of an undulatory theory for heat similar to that which was in progress of acceptance for light. Whewell's report in 1832 on magnetism and electricity shows that these branches of science were looked upon cognate, and that the theory of two opposite electric fluids was generally accepted. In magnetism the investigations of Hansteen, Gauss, and Weber in Europe, and the observations made under the Imperial Academy of Russia over the vast extent of that empire had established the existence of magnetic poles, and had shown that magnetic disturbances were simultaneous at all the stations of observation. At their third meeting the Association urged the Government to establish magnetic and meteorological observatories in Great Britain and her colonies and dependencies in different parts of the earth, furnished with proper instruments, constructed on uniform principles, and with provisions for continued observations at those places. In 1839 the British Association had a large share in inducing the Government to initiate the valuable series of experiments for determining the intensity, the declination, the dip, and the periodical variations of the magnetic needle which were carried on for several years, at numerous selected stations over the surface of the globe, under the directions of Sabine and Lefroy. In England systematic and regular observations are still made at Greenwich, Kew, and Stonyhurst. For some years past similar observations have also been made at Falmouth, but under such great financial difficulties that the continuance of the work is seriously jeopardised. It is to be hoped that means may be forthcoming to carry it on. Cornishmen, indeed, could find no more fitting memorial of their distinguished countryman, John Couch Adams, than by suitably endowing the magnetic observatory in which he took so lively an interest.

Applications of Electricity.

In electricity in 1831, just at the time when the British Association was founded, Faraday's splendid researches in electricity and magnetism at the Royal Institution had begun with his discovery of magneto-electric induction, his investigation of the laws of electro-chemical decomposition, and of the mode of electrolytic action. But the practical application of our electrical knowledge was then limited to the use of lightning conductors for buildings and ships. Indeed, it may be said that the applications of electricity to the use of man have grown up side by side with the British Association. One of the first practical applications of Faraday's discoveries was in the deposition of metals and electro-plating, which has developed into a large branch of national industry; and the dissociating effect of the electric arc, for the reduction of ores, and in other processes, is daily obtaining a wider extension. But probably the application of electricity which is tending to produce the greatest change in our mental and even material condition is the electric telegraph and its sister, the telephone. By their agency, not only do we learn, almost at the time of their occurrence, the events which are happening in distant parts of the world, but they are establishing a community of thought and feeling between all the nations of the world which is influencing their attitude towards each other, and, we may hope, may tend to weld them more and more into one family. The knowledge of electricity gained by means of its application to the telegraph largely assisted the extension of its utility in other directions. The electric light gives, in its incandescent form, a very perfect hygienic light. Where rivers are at hand the electrical transmission of power will drive railway trains and factories economically, and might enable each artisan to convert his room into a workshop, and thus assist in restoring to the labouring man some of the individuality which the factory has tended to destroy. In 1843 Joule described his experiments for determining the mechanical equivalent of heat. But it was not until the meeting at Oxford, in 1847, that he fully developed the law of conservation of energy, which, in conjunction with Newton's law of the conservation of momentum, and Dalton's law of the conservation of chemical elements, constitutes a complete mechanical foundation for physical science. Who, at the foundation of the Association, would have believed some far-seeing philosopher if he had foretold that the spectroscopist would analyse the constituents of the sun and measure the motions of the stars; that we should liquefy air and utilise temperatures approaching to the absolute zero for experimental research; that, like the magician in the "Arabian Nights," we should annihilate distance by means of the electric telegraph and the telephone; that we should illuminate our largest buildings instantaneously, with the clearness of day, by means of the electric current; that by the electric transmission of power we should be able to utilise the Falls of Niagara to work factories at distant places; that we should extract metals from the crust of the earth by the same electrical agency to which, in some cases, their deposition has been attributed? These discoveries and their applications have been brought to their present condition by the researches of a long line of scientific explorers, such as Dalton, Joule, Maxwell, Helmholtz, Herz, Kelvin, and Rayleigh, aided by vast strides made in mechanical skill. But what will our successors be discussing 60 years hence? How little do we yet know of the vibrations which communicate light and heat! Far as we have advanced in the application of electricity to the uses of life, we know but little even yet of its real nature. We are only on the threshold of the knowledge of molecular action, or of the constitution of the all-pervading ether. Newton, at the end of the seventeenth century, in his preface to the "Principia," says:—"I have deduced the motions of the planets by mathematical reasoning from forces; and I would that we could derive the other phenomena of Nature from mechanical principles by the same mode of reasoning. For many things move me, so that I somewhat suspect that all such may depend on certain forces by which the particles of bodies, through causes not yet known, are either urged towards each other according to regular figures or are repelled and recede from each other; and, these forces being unknown, philosophers have hitherto made their attempts on Nature in vain." In 1848 Faraday remarked:—"How rapidly the knowledge of molecular forces grows upon us, and how strikingly every investigation tends to develop more and more their importance! A few years ago magnetism was an occult force, affecting only a few bodies; now it is found to influence all bodies, and to possess the most intimate relation with electricity, heat, chemical action, light, crystallisation, and, through it, the forces concerned in cohesion. We may feel encouraged to continuous labours, hoping to bring it into a bond of union with gravity itself." But it is only within the last few years that we have begun to realise that electricity is closely connected with the vibrations which cause heat and light, and which seem to pervade all space—vibrations which may be termed the voice of the Creator calling to each atom and to each cell of protoplasm to fall into its ordained position, each, as it were, a musical note in the harmonious symphony which we call the universe.

Metallic Alloys.

Few questions are of greater interest, or possess more industrial importance, than those connected with metallic

alloys. This is especially true of those alloys which contain the rarer metals; and the extraordinary effects of small quantities of chromium, nickel, tungsten, and titanium on certain varieties of steel have exerted profound influence on the manufacture of projectiles and on the construction of our armoured ships. Of late years investigations on the properties and structure of alloys have been numerous, and among the more noteworthy researches may be mentioned those of Dewar and Fleming on the distinctive behaviour, as regards the thermo-electric powers and electrical resistance, of metals and alloys at the very low temperatures which may be obtained by the use of liquid air. Professor Roberts-Austen, on the other hand, has carefully studied the behaviour of alloys at very high temperatures, and by employing his delicate pyrometer has obtained photographic curves which afford additional evidence as to the existence of allotropic modifications of metals, and which have materially strengthened the view that alloys are closely analogous to saline solutions. Professor Roberts-Austen has, moreover, shown that the effect of any one constituent of an alloy upon the properties of the principal metal has a direct relation to the atomic volumes, and that it is consequently possible to foretell, in a great measure, the effect of any given combination. Metallurgical science has brought aluminium into use by cheapening the process of its extraction; and if by means of the wasted forces in our rivers, or possibly of the wind, the extraction be still further cheapened by the aid of electricity, we may not only utilise the metal or its alloys in increasing the spans of our bridges, and in affording strength and lightness in the construction of our ships, but we may hope to obtain a material which may render practicable the dreams of Icarus and of Maxim, and for purposes of rapid transit enable us to navigate the air.

Explosives.

But, great as have been the developments of science in promoting the commerce of the world, science is asserting its supremacy even to a greater extent in every department of war. And perhaps this application of science affords at a glance, better than almost any other, a convenient illustration of the assistance which the chemical, physical, and electrical sciences are affording to the engineer. The reception of warlike stores is not now left to the uncertain judgment of "practical men," but is confided to officers who have received a special training in chemical analysis, and in the application of physical and electrical science to the tests by which the qualities of explosives, of guns, and of projectiles can be ascertained. For instance, take explosives. Till quite recently black and brown powders alone were used—the former as old as civilisation, the latter but a small modern improvement adapted to the increased size of guns. But now the whole family of nitro-explosives are rapidly superseding the old powder. These are the direct outcome of chemical knowledge and not of random experiment. The construction of guns is no longer a haphazard operation. In spite of the enormous forces to be controlled, and the sudden violence of their action, the researches of the mathematician have enabled the just proportions to be determined with accuracy; the labours of the physicist have revealed the internal conditions of the materials employed, and the best means of their favourable employment. The chemist has rendered it clear that even the smallest quantities of certain ingredients are of supreme importance in affecting the tenacity and trustworthiness of the materials. The treatment of steel to adapt it to the vast range of duties it has to perform is thus the outcome of patient research. And the use of the metals—manganese, chromium, nickel, molybdenum—as alloys with iron has resulted in the production of steels possessing varied and extraordinary properties. The steel required to resist the conjugate stresses developed, lighting fashion, in a gun, necessitates qualities that would not be suitable in the projectile which that gun hurls with a velocity of some 2500 feet per second against the armoured side of a ship. The armour, again, has to combine extreme superficial hardness with great toughness, and during the last few years these qualities are sought to be attained by the application of the cementation process for adding carbon to one face of the plate, and hardening that face alone by rapid refrigeration. The introduction of metal cartridge cases of complex forms drawn cold out of solid blocks or plate has taxed the ingenuity of the mechanic in the device of machinery and of the metallurgist in producing a metal possessed of the necessary ductility and toughness. The cases have to stand a pressure at the moment of firing of as much as 25 tons to the square inch. There is nothing more wonderful in practical mechanics than the closing of the breech openings of guns, for not only must they be gas-tight at those tremendous pressures, but such that one man by a single continuous movement shall be able to open or close the breech of the largest gun in some 10 or 15 seconds. The perfect knowledge of the recoil of guns has enabled the reaction of the discharge to be utilised in compressing air or springs by which guns can be raised from concealed positions in order to deliver their fire, and then made to disappear again for loading, or the same force has been used to run up the guns automatically immediately after firing, or, as in the case of the Maxim gun, to deliver in the same way a continuous stream of bullets at the rate of ten in one second.

Fostered Science in Germany.

Our neighbours and rivals rely largely upon the guidance of the State for the promotion of both science teaching and of research. In Germany the foundations of technical and industrial training are laid in the *Realschulen*, and supplemented by the higher technical schools. In Berlin that splendid institution, the Royal Technical High School, casts into the shade the facilities for education in the various Polytechnics which we are now establishing in London. For developing pure scientific research, and for promoting new applications of science to industrial purposes the German Government, at the instance of Von Helmholtz, and aided by the munificence of Werner von Siemens, created the *Physikalische Technische Reichsanstalt* at Charlottenburg. This establishment consists of two divisions. The first is charged with pure research, and is at the present time engaged in various thermal, optical, and electrical and other physical investigations. The second branch is employed in operations of delicate standardising to assist the wants of research students. As a consequence of the position which science occupies in connection with the State in Continental countries, the services of those who have distinguished themselves either in the advancement or in the application of science are recognized by the award of honours; and thus the feeling for science is encouraged throughout the nation.

MINING DISASTER.—A terrible mining accident occurred on Monday evening at Tynybedw Colliery, in the Rhondda Valley, the property of Messrs. Cory Brothers, of Cardiff, which resulted in the loss of six lives. About two o'clock in the afternoon the ropes of the cage snapped, and tracks of coal fell to the bottom of the shaft. In consequence of this accident the miners had to be raised by an iron tube, and about half-past nine o'clock, while six men were being brought to the surface, the tube tilted, and all fell to the bottom, about 200 yards, and were killed on the spot. The bodies were recovered about midnight.

AUSTRALIAN EXPORTS FOR AUGUST.—The total exports from Melbourne, Adelaide, Sydney, and Queensland to Great Britain for the past month have been—Copper, 900 tons; copper ore, 900 tons; tin, 40 tons.

MEETINGS OF MINING COMPANIES.

NORTH-WEST AUSTRALIAN GOLD FIELDS, LIMITED.

THE statutory meeting of this company was held on Tuesday, at the offices, 151, Cannon-street,—Mr. A. F. CALVERT, F.R.G.S., &c., presiding.

The SECRETARY (Mr. W. H. Jeffers) having read the notice convening the meeting.

The CHAIRMAN said: Gentlemen—Although this is what is generally referred to as "only a statutory meeting," held in compliance with the Companies' Act, it is in reality an important function in the eyes of directors, as it gives them the opportunity they desire of meeting the shareholders personally and explaining, at any rate to some extent, the plan of campaign they intend to pursue. In the four months that elapse between the registration of a company and the holding of the statutory meeting, the work accomplished is to a large extent formal and preliminary; but your directors, in this instance, have the gratification of knowing that if the amount of information they possess is not very large, it is at least very satisfactory. The company was registered on May 14 with a capital of £250,000, and, as you are aware, the whole of the money required for working capital was privately subscribed. From that date we have not allowed the grass to grow under our feet. We immediately cabled to our agent in Melbourne, Mr. Augustus S. Roe, to appoint the best possible man as manager to take over our properties, and the work of opening up and developing the mines was proceeded with at once. You have already had, in pamphlet form, a preliminary report, containing a considerable amount of information about our properties, and the reports by local mining engineers and surveyors, which will give you some idea of the estimation in which these leases are held in the North-west. My own opinion of this district has always been a high one. I believe I am right in saying that I was the first to write a description of the Talga Talga field, and even marked it upon the maps I published on my return from my first visit to Western Australia some years ago. It was impossible to inspect the field and not be impressed by its apparent value, and I am glad to find that in this I am borne out by Mr. T. H. Smith, a well-known mining authority from Charter Towers, who states that the Talga Talga gold field will be found to be richer than either Bamboo Creek or Marble Bar. The local newspapers are also unanimous in their opinions, and, in commenting upon our prospects, the mining authority of *Northern Public Opinion*, the only paper published in the north-west, declares that the amalgamation of our original three leases forms one of the most promising properties in the North-west. The information we have received from mines subsequent to the publication of this preliminary report, which we circulated a few weeks ago, fully bears out what we then published. Work has been pushed on with all speed, and every effort is being made to get the properties thoroughly opened up in readiness for the arrival of the machinery. Ten heads of stamps have been ordered on this side, and will be shipped immediately; and by the time this machinery is erected on the property there should be sufficient stone at grass to keep it working continuously. A machinery site is now being prepared, and as both water and fuel are abundant in the neighbourhood, our progress will not be hampered by the drawbacks that have to be overcome on the Southern fields. Our most recent telegrams from the spot state that the work of driving the tunnel is proceeding in a satisfactory manner, and that the reports continue to be favourable, and a further cable, which I have received this morning, says that the ore is improving in value. I may also tell you that two large cases of average samples of ore arrived in London last week from the mine. They will be at once forwarded to Messrs. Johnson, Mathew and Co., and the result of their assay and examination, when received by the directors, will be at once communicated to the shareholders. At the statutory meeting of the Consolidated Gold Mines of Western Australia, which was held last month, I had the pleasure of congratulating the shareholders upon the completion of arrangements by which that company would work in harmony with ourselves, and I think I may safely assert that it is equally a matter of congratulation to ourselves that this arrangement has been made. The Consolidated Company, with its £105,000 of working and reserve capital, is, as many of you are aware, a very great power in the district, and by working in conjunction we consider that the two companies will practically control the major interests of these gold fields. A more directly practical result of our relations with the Consolidated Company will be a saving of expenses, as we shall secure thereby the services of two such experienced men as Mr. Walter Marsh and Mr. Owen. Mr. Marsh and Mr. Owen are the managers of the Consolidated Company's Coongan group of properties, and they will now act jointly with our own manager in the management of our Talga Talga properties. There is another piece of information I have to impart to you, and on this point I am sure we shall have your approval. Since the registration of this company the three properties which we were formed to work, viz., Breen and Wilson's, Walker and Cunningham's, and Geyer and Nix's have been duly transferred to the company, and I have this day received a cablegram from Mr. Roe informing me that two additional properties adjoining these three leases have also been transferred to the company. These 18 acres, which I consider a very valuable addition to our property, bring our total area up to 53 acres. Your directors considered that it was necessary to secure these two blocks in order to complete our control of this line of reef, and I am, therefore, the more pleased in being able to announce to you that this has been done. I am also in hope that I shall shortly be able to announce the acquisition of some further properties. With the large working and reserve capital of £270,000 at our command, the North-West Australian Gold Fields Company should become a parent institution, and increase the profits we shall make from working our present mines by forming and floating subsidiary companies. During my next visit to the North-West, which I start upon about the middle of October, I shall travel widely through the district and inspect a large number of properties, and while on the spot I shall be able to acquire leases at a much lower figure than they would be got if the negotiations were conducted from this side. The advantage of personal inspection is also to be considered, and I confidently expect that I shall be able to make my visit of advantage to this company. Since his arrival in England I have had the opportunity of getting the opinion of Mr. T. T. Byass upon our properties. Mr. Byass, who has been in the North-West for the past seven years, and is well-known throughout the district as a mining engineer, is the only expert acquainted with Talga Talga who has yet come to London, and I was glad to hear what he had to say upon the subject. Mr. Byass not only gave me much valuable information, but he has been good enough to give me also a written statement about our properties, which I should like to read to you. It is as follows:—

To the directors of the North-West Australian Gold Fields (Limited).—At your request I have much pleasure in making the following statement with regard to the properties of the North-West Australian Gold Fields (Limited) at Talga Talga. As recently as May last I visited the Talga, and after making my own examination of the North-west district, I can unhesitatingly state that it is one of the most promising fields in this part of the country. The vein is a true fissure vein, which has been traced for two miles along the surface of a bold range of hills over 200 feet in height, which runs north and south. The reef, which is on the western fall of the range is parallel with an immense quartzite dyke which runs at about 100 and 150 feet from the foot of the hill. It has a westerly underlay. The five properties you possess adjoin one another, and have the reef averaging 1 to 5 feet in width running through them. The reef is well defined all the way down, and it bears unmistakable signs of permanency. The gold is finer than that in McPherson's Ward claim, but it is more generally distributed, and I consider the ore will, on the whole, yield a higher average. Your five leases are, I am sure, all valuable, but the best of the five, and I may say, in my opinion, the best on this line of reef, is Breen and Wilson's Reward claim. So high do I estimate the value of this claim that I am convinced it could alone pay for all the rest of the company's leases should the others prove disappointing, which is very unlikely; and in saving this I am echoing the opinion that is universally held in the North-west. As an illustration of the light in which the reef is regarded, I may add that some experienced Charter Towers miners, who may be relied upon to know what they are about, have pegged out claims on the western side of our boundary to catch the lode at the deeper levels. They expect to cut

reef at great depth; but long before this your leases will, I feel sure, pay for themselves many times over.—T. T. Byass, September 9, 1895.

Mr. SPRINGTHORPE: I should like to ask what price the company paid for the two additional properties that have been secured.

The CHAIRMAN: This company has not paid a penny for the properties that have been transferred to it; they were given to the company as a sort of present, and have been transferred to the company free of expense.

Mr. SPRINGTHORPE: Can you give us any idea of their value?

The CHAIRMAN: I think I said in my statement just now that an offer of £10,000 in cash was made for them. I received that offer before they were transferred to the company; but they were wanted by this company for a particular purpose—to get control of the reef—so the offer was not accepted.

Captain ARNOLD: Are you going out to Western Australia as the company's representative?

The CHAIRMAN: I am not going out directly as the company's representative, and I am not taking any money or fees for my trip, but, notwithstanding that, I am really going out in the interests of this company, and I shall bear it in mind in any properties I may be able to secure. I hope to get some similar properties which we can deal with, and so act as a parent company rather than as one to work its own mines.

Mr. SPRINGTHORPE: I beg to propose a vote of thanks to the Chairman for the very able manner in which he has made his report to the company. It seems to me that our prospects are very promising indeed. I am also glad that Mr. Calvert is going out to Western Australia, and I have no doubt the result of his visit will be to increase the value of the company's property.

Mr. HARDMAN seconded the motion, which was carried, and the meeting closed.

WOLVERAND GOLD MINES, LIMITED.

An extraordinary general meeting of the Wolverand Gold Mines (Limited) was held on Tuesday, at Winchester House, Mr. CURWEN SISTERSON (the Chairman of the company) presiding, for the purpose of considering a scheme for winding-up the undertaking and transferring the shareholders' interest in accordance therewith.

The SECRETARY (Mr. Ernest N. Dawe) having read the notice convening the meeting.

The CHAIRMAN said: Gentlemen—It becomes my duty to explain very briefly the reasons for our advising you to adopt the policy which the resolutions contain; but in order to refresh the memories of some of the shareholders I should like to briefly recapitulate the past of this company. You must understand that when the present directors took office in the late Notre Dame Company it was an utterly discredited concern, and its shares were simply unsaleable. In a very difficult time we endeavoured to reconstruct this company, and it certainly was reconstructed and the property was saved for the shareholders—a property which I always said was valuable. (Hear, hear.) It was reconstructed in times when everybody was peculiarly sceptical about anything under the Band; they were peculiarly sceptical as regards the Klerksdorp district, and it took the humble individual now addressing you days and days to personally go round amongst the shareholders of the old Notre Dame Company and beg of them to come into this company. Many of them did come in, but others did not; at any rate, when this company was reconstructed its capital was insufficient to do anything else than to conserve it, until a time came when it could be efficiently and economically worked on a large scale. The result of that reconstruction merely meant something like £9000 for working capital and everything else, and although the shares were offered to the shareholders over and over again, they declined to come in. Since then, however, the surplus shares have been repeatedly offered to existing shareholders, but they still felt that they did not care to put any more money into this concern. From conversations which I had with them from time to time the wish which they constantly expressed was this: "Do not ask us for any money." Well, that is a very awkward thing to have said to you when you require money for working a vast property. Consequently, we felt that, although certain shareholders would come forward and put more capital into the concern, it was impossible to bind the whole of them to find sufficient capital to work this property. We then took steps outside, and in South Africa, where the property was known, endeavoured to induce people to come to our assistance and find us that capital, and not only to do that, but also to find us the brains behind it; because, as has been very properly expressed, you may get capital which may constitute a spade, but you want a man behind the spade to make that spade useful, and that is what we trust we have in the proposal which we are putting before you to-day. But before he could get Messrs. Lewis and Marks to entertain any proposals as regards capital, they insisted that they must first of all receive the assurance that the largest shareholders, and the majority of the shareholders, would support them, otherwise they would not entertain it for one moment. After considerable negotiation, and after receiving the scheme of Messrs. Lewis and Marks, we consulted our largest shareholders, with the result that they unanimously supported the scheme which we to-day ask you to accept. Although in the course of the history of this company I have received a vast amount of correspondence from shareholders, strange to say I have not received one single letter deprecating in any way the proposals we now put before you. Now, Messrs. Lewis and Marks are not, if I may so put it, creatures of a day. They are identified with all that is prosperous in South Africa, with some of the biggest and most successful undertakings there, and these are the gentlemen to whom we propose to hand over our interests, to be properly and thoroughly dealt with for the benefit of us all. Messrs. Lewis and Marks, I am glad to say, are, like myself, believers in a small capital. I have anything like over-capitalising, and I would very much rather hold a fewer number of shares in a small capital than a large number of shares in a big capital; or, in other words, I would rather hold a few shares which were valuable than a large number of shares which were unsaleable. I feel, therefore, that in recommending the shareholders to receive a slightly less number of shares than those they have hitherto held, I am advising them to do something distinctly to their own benefit. Personally speaking, I should have liked to receive from Messrs. Lewis and Marks double the number of shares that I shall under the scheme; but then, of course, they are not philanthropists any more than anybody else in the financial world, and a thing they take up must pay them as well as the people who sell to them, which is only reasonable and businesslike. I do feel that these shares we shall get under the scheme, although a less number, will be of a very much greater value than those we hold at present, and it is because I feel that, and my fellow directors feel that, that we are willing, in the interest of everybody, to cease to be directors, and to hand over this property to African management, to parties who, we believe, will work it thoroughly, systematically, and well. (Hear, hear.) I have the assurance of Messrs. Lewis and Marks that some of the most prominent men in Johannesburg will be invited to join the board. They will be on the spot to advise and supervise as to everything, which we in England cannot do, and it is a very difficult thing to develop any mine under such circumstances. You require to be on the spot and have all the requisite information at the earliest period in order that such an interest as this may be made a success. Well, gentlemen, beyond telling you that our largest shareholders are unanimously in favour of the scheme, and that we personally believe it to be to your interest to adopt it, I need say no more; but I shall be happy to answer any questions, with a view to elucidating more fully the proposals we put before you. I now beg to propose the following amended resolutions:—

(1) That the company be wound-up voluntarily, and that Ernest Nansen, Dawe, of Bondfield House, 5, New Broad-street, in the City of London, and Howard Carille Morris, of 2, Walbrook, in the City of London, be, and they are hereby appointed liquidators for the purpose of winding-up. (2) That the draft agreements submitted to this meeting, one being expressed to be made between the company and the said E. N. Dawe and H. C. Morris as liquidators thereof of the one part, and Curwen Sisterston of the other part, and the other being between Isaac Lewis, Barnett Lewis, and Samuel Marks of the first part, the said E. N. Dawe and H. C. Morris of the second part, and the said Curwen Sisterston of the third part be, and the same are hereby approved, and that the said liquidators

be and they are hereby authorised and directed, pursuant to Section 161 of the Companies Act, 1862, to enter into the same in the terms of the said drafts, and to carry into effect with such, if any, modifications as they may think expedient.

Mr. JOSEPH WALKER seconded the motion.

The SECRETARY having read the proposed agreements,

The scheme was strongly supported by Mr. G. ALLAN (director), who referred to the unhappy history of the company, and expressed the opinion that under the new conditions shareholders would recover all they had previously lost. He should not be surprised to see the shares reach £4 or £5 each.

Mr. PRESTON HARMAN questioned whether the bargain was such a good one. He thought they ought to get share for share.

Mr. J. STROYAN (Johannesburg) said he knew the difficulty there had been in making the arrangement proposed, and he hoped it would be at once accepted.

Mr. MARTELL also supported the scheme, and expressed the opinion that the present directors of the company had done extremely well for the shareholders. When they took up the control the shares were at about 2s., and they had since changed hands at over £1. He did not think the shareholders could do better than have confidence in the directors, and leave themselves in their hands. (Hear, hear.)

The motion was then carried unanimously, and 300 guineas was voted as the liquidators' remuneration.

Mr. MARTELL moved: "That the best thanks of the shareholders be accorded the directors for their efforts in the past, and that this meeting hereby votes them a sum of £1000 on their relinquishing their position as directors."

Mr. IVE seconded the motion, which was carried, and the proceedings closed.

HANNAN'S STAR GOLD MINES.

The first ordinary general meeting of Hannan's Star Gold Mines (Limited) was held on Wednesday, at Winchester House, the Earl of DONOUGHMORE presiding.

The SECRETARY (Mr. Holland Dell) having read the notice convening the meeting.

The CHAIRMAN said: Gentlemen—As you are aware, you are called together at this early date in our history in order to comply with the requirements of the law that a meeting of the shareholders must be held within four months of the registration of the company. It is also a source of pleasure to your directors to have this opportunity of meeting the shareholders and making their acquaintance. It will be of interest to you to learn that the sum of £15,000 required for working capital, as well as the amount necessary for the purchase of the property, have been provided out of the shares allotted upon the formation of the company. I am pleased to inform you that the transfer of the property has been made, registration effected, and possession given to this company's agent. Although four months have elapsed since the registration of the company here, we were unable to complete the purchase until a month ago. Dealing as we had to do with vendors in Australia, we were unable to obtain a title to the satisfaction of our solicitors at an earlier date. As a matter of fact, one of the holders in whose name one of our leases was registered could not be found, and considerably delay, consequently, occurred in obtaining his signature to the transfer. It is only within the last few days that we received the first letter from your company's recently-appointed representative in Australia. The contents of this letter, as also messages received by cable, have been published in the newspapers; and I have no doubt you are fully aware of their nature, and consider them satisfactory. It will not, we hope, be long before more detailed information will be to hand regarding the extent and value of the workings, which, we believe, will show that the prospects of your company, as set out in the prospectus, will be realised. The mine manager, Mr. Ro-man, has been appointed, and is now in charge of your property. This gentleman has been selected by the board after consideration and enquiry, and his appointment has the cordial approval of your own representative in Coolgardie, who has known him for some years. Upon his taking charge we received the following cablegram:—

"Ro-man has taken charge; most favourably impressed with property." We believe Mr. Ro-man to be practical and reliable, and we await with much interest his further communications.

During the period since the formation of this company work has been continued upon the property, and a shaft, which is referred to in Mr. William Thompson's report issued with the prospectus, as having a depth of 65 feet, has been sunk to a depth of 90 feet, and the letter containing this information stated that "the reef is looking well, showing fine and coarse gold." We presume from this that the reef maintains its size and quality, and if so, the value of your property should be very highly increased by the additional development carried out. We expect that water will be met with at a depth of 150 feet, which is about the level at which water has been struck in the neighbouring mines. Your property consists of two leases, in all 18 acres; and it is believed that when fully prospected other deposits will be exposed which will materially increase its value. The company's representative at Coolgardie, Mr. E. Graham Price, who is the manager of the Swan Syndicate, a company formed by persons of influence holding large interests in Australia, and of whom our colleague, Mr. R. Herbert Lapage, so well known in connection with that country, is one. Mr. Price will hold the company's power of attorney, and we have, therefore, near the property a source of information and advice which will no doubt prove of great assistance to the mine manager, Mr. Ro-man, as well as to your board. It may interest you to hear that within the last 48 hours we have received the following telegram from Mr. Price:—"The opinion of all who have visited the mine is very high. In my opinion I consider it a most valuable property." Estimates for the winding and pumping machinery have been obtained, and immediately upon the completion of the purchase the order for it was given. It is hoped that this machinery will be shipped within a few weeks, which will enable the mine manager to continue the vigorous development of the mine. As regards crushing machinery, your directors naturally wished to avail themselves of the most recent improvements, and a special committee of the board have given considerable care and attention to this matter. The type of plant has been decided upon, and the order will be placed immediately. The pumping and winding machinery is that first required, so that by the time the crushing machinery reaches the property and is erected, the development should be in a condition to enable it to be kept fully and profitably occupied. In conclusion, I believe the mine to be thoroughly good, and apparently the shareholders and the public—judging by the price our shares command in the market—are of the same opinion. The district is well known and highly valued, as is evinced by the price at which the shares of the neighbouring mines are selling. Both our agent and manager allude to the fact that our mine is on the same line as the Great Boulder, the shares of which, I need hardly remind you, have reached a high premium. It should not, however, be forgotten that at the time your property was purchased it was bought upon its own merit, the mines in the vicinity not then having half their values so thoroughly proved as at present, nor was the extraordinary richness of this district generally at that time established. Having mentioned that there were two gentlemen present—Mr. Cordner-James (mining engineer) and Mr. R. H. Lapage—who both had a knowledge of the mine and the district in which it is situated, the Chairman concluded by expressing a hope that the property would turn out to be as good as all concerned believed it to be. (Applause.)

Mr. CORDNER-JAMES said he was requested by a syndicate, whose field of operations was Western Australia, to go to that country and select for them such properties as he might consider valuable. Some time after his arrival he went to Hannan's, where he had the pleasure of meeting Mr. Lapage. He inspected the Hannan's Star property amongst others, and the results he obtained from his first casual examination of the mine were so astounding that he could hardly believe them. The samples he took were bruised and panned by himself, and he thus gained a fair idea of the real merits

of the property. He took check samples again and again, with the result that his first opinion was fully confirmed, and he entered into negotiations for the purchase of the property forthwith. Those negotiations had eventually been completed, with the result that the Hannan's Star Company now possessed what he, with experience in nearly every gold-field in the world, regarded as the most valuable property he had ever seen. Mr. Corder-James then announced some of the results he obtained in examining the property. At the main shaft there was a deposit exposed 8 feet in width at the surface; he took a sample across the full width, and sent a portion of it to the Government assayer in Perth, the return being 7 ounces 7 dwts. per ton. A little lower down he took another sample from the deposit 8 feet in width, and there got an assay value of 1 ounce 12 dwts. At another point he took a sample across 4 feet 6 inches in width, and obtained an assay of 1 ounce 2 dwts. At the first level across the north end a sample taken across 4 feet in width gave 8 ounces per ton. Other assays taken at different points of the same deposit gave respectively 32 ounces, 1 ounce 19 dwts., 31 ounces, 15 ounces, and 68 ounces to the ton. In addition to that deposit, there were other parallel lines of reef upon the property, and these had scarcely been worked upon, but they were fast exposed. He would read the results he got from the shallow surface pits which exposed portions of the deposit. One assay was 19 dwts., and others varied between 2 ounces and 9 ounces, and the directors hoped that when the property was fully prospected, some of the veins of which he was only able to sample the surface would, upon further proving and sinking, be equally valuable with the main shaft, upon which really the property was floated. Before the property was acquired, a report was obtained from an exceedingly well-known man in Coolgardie, who occupied the position of Government mineralogist in Queensland, and who, upon resigning that post, went to Coolgardie. The results obtained by that gentleman, which were published in the prospectus, fully confirmed the assays of the samples he (the speaker) had taken, and it was only upon that confirmation being given that the property was acquired and the purchase completed. He could only say, in conclusion, that he thoroughly believed in the property, and that he and his colleagues on the board felt confident that, when fully developed and prospected, it would yield such results as would bear out the statements which had been placed before the shareholders. (Applause.)

Mr. R. H. LAPAGE, M.I.C.E., congratulated the shareholders on possessing such a magnificent property, and said they had to thank Mr. Corder-James for acquiring it for them. He knew the district well, having spent a good deal of time there last year, and had been very much astonished at the way in which it had been developed. At Hannan's Brownhill, of which company he was a director, they were getting such rich stuff that the manager dare not bring it to the surface; he was packing it underneath to keep it, presumably, from being "rushed." Other properties there had turned out remarkably rich, and this certainly spoke very well for the district. It was the Swan Syndicate that brought out this company, but before that was done he, being Chairman of that syndicate—which, by the way, was doing remarkably well—was careful to obtain private information, quite apart from what Mr. Corder-James told him. One report he obtained was that the people who owned the mine had been employing what they called a "black boy," who had very sharp eyes, to speak out the gold, and he estimated that by so doing he got hundreds of ounces to the ton from the dump, as the stuff was brought up. As to the water question, the directors were sending out machinery which would not require much water, but they had every hope that they would strike it at a depth of between 150 and 180 feet. It had been struck at Hannan's Brownhill, and, moreover, there was a lake at Hannan's which would prove useful. They had taken precautions to secure timber for the mine, and there was ample fuel for many years to come. (Applause.) In addition, the railway had been finished to Coolgardie, and Hannan's was only 24 miles away, so that there would be no difficulty in getting whatever mining timber they required. Mr. Lapage said he thought there was every probability of the mine proving to be one of the best in the district; no doubt when they commenced crushing there would be enormous results. Herr Schmeisser, the German engineer, had arrived at Hannan's district, and had reported favourably upon the Brownhill property, which meant that Hannan's Mines were considered by him to be very good. (Applause.)

A cordial vote of thanks to the Chairman closed the meeting.

WHEEL BASSET.

A meeting of shareholders was held at Tabb's Hotel, Redroth, on Tuesday, to consider the future working of Wheel Basset and South Frances United Mines by one company with limited liability, and to pass, if considered desirable, certain resolutions.

Captain F. OATES, who presided, stated that in response to the circular sent to Wheel Basset shareholders, 2959 shares were taken, and a great number of shares were represented at that table by the committee and himself. Wheel Basset was fairly represented, and he might say that the business of the shareholders was in the hands of those competent to carry out their resolutions in accordance with the advice of their solicitors. (Hear, hear.) It was desirable that a limited company should be formed, for the mines had reached a stage at which they required more capital, and a limited company would give all the shareholders more confidence, as whilst under the joint-stock system many of the shareholders were unknown to one another, their liability was unlimited. As the joint-stock system was originally worked the shareholders were few, and were known to one another. In fact, it was partnership on a rather large scale. But as the share list increased it was almost impossible for a holder to know all those interested with him in a mine. They in the county knew what committees brought up their accounts closely and what committees did not; what managements could be trusted and what could not. But shareholders at a distance were likely to include the whole among the doubtful. As large sums of money were to be spent, it was, therefore, necessary that the security afforded by limited liability should be offered to the shareholders. The amalgamation of the two mines would lead to cheaper working, and an end of the water difficulties. He gave credit to the lord's agent for having proposed amalgamation at a time when there was trouble with the water question, and he presumed that as they advanced the idea they would not now throw any difficulties in the way. Very likely the committees would be willing to accept terms similar to those under which Wheel Basset was worked, but it must not be supposed that because they had certain funds they would accept any terms. (Applause.) Everyone would commend the spirit Mr. Alfred Lanyon had shown by coming forward to the extent of 1000 shares, and he felt much obliged to him, especially as he was a local shareholder. (Applause.) He moved:—"That it is desirable a company, with limited liability, be formed to acquire and work Wheel Basset and South Frances Mines."

Mr. A. LANYON, first on behalf of Mr. J. C. Dauboz, whose proxy he held, and secondly for himself, seconded. He said that in consequence of the proposed amalgamation he became a much larger shareholder than he should have had the mine been worked as in former years. The idea of amalgamation directly originated with the lords, but had been largely assisted in its development by Mr. Oates, and personally he felt that amalgamation was necessary if the industry was to be maintained. (Applause.)

The motion was carried unanimously.

Mr. H. TREMBATH moved, and Mr. G. CARTER seconded:—"That the Wheel Basset Mine be registered as an unlimited company, under the Companies Act, 1862 to 1890."

The resolution was carried.

Mr. J. G. BONE moved, and Mr. J. PERMEWAN seconded:—"That Mr. Henry Trembath, of Pembance, and Mr. Richard Rendle, of Gwennap, or one of them, as the case might require, sign all papers and make all declarations of dividends necessary for the purpose of giving effect to the preceding resolutions."

The motion was agreed to.

On the motion of Mr. H. OLDS, seconded by Mr. JOHN MAYNE,

it was resolved that the registered offices should be at Wheal Basset Mine.

The CHAIRMAN stated that on the part of Wheal Basset they had received guarantees for 25,496 shares, and from Mr. Cornelius Bawden he gathered that South Frances had received guarantees for 8489 shares, making altogether 33,985 towards the 30,000 required, so that they were 3000 to the good. (Hear, hear.) It would now be the business of those at the head of affairs to interview the lords and endeavour to get a grant of the mineral rights—he did not like the word lease—on favourable terms. (Hear, hear.) The £30,000 would not be spent unless they got a favourable lease, though he had no reason to believe they would not obtain such a lease from the lords. (Applause.)

Mr. J. PERMEWAN said that in a recent case there was raised a strong feeling on account of the Articles of Association not being published previous to the working of the concern. He hoped in this case they would be published. (Hear, hear.)

The CHAIRMAN remarked that the question was only one of expense. He thought if the Articles could be seen on application to the pursuer of either mine the case would be met. (Hear, hear.) They would contain no arbitrary conditions, and every share would have a vote. In the first place, they would have to elect directors for formal work, without consulting the shareholders, but afterwards the election would be left to the shareholders.

It was agreed that the Articles of Association should be left with the pursuer of each mine.

A vote of thanks to the Chairman closed the meeting.

SOUTH FRANCES MINE.

The shareholders in this mine afterwards held a meeting, Mr. CORNELIUS BAWDEN (the pursuer) presiding. Resolutions similar to those passed by Wheal Basset shareholders were adopted.

In submitting the first Mr. LANYON remarked that Mr. J. C. Dauboz would work heartily for the company as he had for South Frances.

Mr. Alfred Lanyon and Mr. Cornelius Bawden were appointed to sign papers, &c., for South Frances.

TINCROFT MINE.

The adjourned meeting of the adventurers in Tincroft Mine was held last Monday, under the presidency of Mr. FRANK HARVEY, J.P., C.C., the object of the meeting being to consider the advisability of confirming the resolutions passed at a previous meeting for amalgamating with Cook's Kitchen.

The CHAIRMAN said he was very pleased to say that the draft lease had been received from the Teldy office, and had been carefully considered by the committee and Mr. A. H. Jenkin, of Redruth, who was acting on behalf of the Tincroft adventurers. They could take little exception to the lease. There might be some minor alterations to make, but the committee recommended the shareholders to accept it. It was proposed that Cook's Kitchen should be taken over on the day of registration. Mr. C. V. Thomas and Mr. Jenkin would go to Truro on Wednesday to lay the papers before the Vice-Warden, and in a day or two all the negotiations would be carried out satisfactorily. On the part of Tincroft adventurers; everything had been done, so far as they could act consistently and with prudence, to carry out the amalgamation speedily. He could only hope the result of the amalgamation would be satisfactory. The Chairman, in conclusion, proposed the confirmation of the special resolutions.

Mr. MASON, representative of Messrs. Bolitho and Co., in seconding, remarked that Mr. Basset had promised to give up half of the water charges to Cook's Kitchen whilst the amalgamation concern was losing.

The CHAIRMAN, in reply to questions, said their expenses in regard to the taking over of Cook's Kitchen would commence on Wednesday next. The Tincroft lease had 14 years to run, and the Cook's Kitchen new lease would expire when that did. When any loss was made by the amalgamated company, £50 instead of £100 per year would be paid to Mr. Basset for the water running through his land to Cook's Kitchen sett.

Thanks to the Chairman for the part he had taken in the amalgamation negotiations was, on the motion of Captain TEAGUE, seconded by Mr. ROWE, carried.

Replying to Mr. JEFFREY, the CHAIRMAN said Tincroft had a 25 years' lease granted on June 30, 1894.

The motion was unanimously passed.

BARDOL GOLD MINES (LIMITED).—The statutory meeting of the Bardol Gold Mines (Limited) was held on Tuesday, at the offices, 43, Threadneedle Street, E.C., under the presidency of Mr. George Lewis. The Chairman said the company was registered on May 13, with a capital of £100,000. 25,000 shares were offered for public subscription, and were all applied for and allotted, giving the company, after paying for the property, a working capital of £25,000. Some slight delay took place in the transfer of the property, which, however, was satisfactorily completed on June 12. The directors had been fortunate in securing the services of Professor Nicholas as the company's representative at Coolgardie, and that gentleman had appointed Mr. T. Vollenweith the mine manager. On July 16 Professor Nicholas cabled that the main shaft was down 55 feet, and at the bottom a well-defined lode 6 feet wide had been struck, and in the south level a rich streak of gold 11 feet wide. The outcrops of the vein had been proved by continuous trenching 181 feet from the shaft. As to machinery, the directors were awaiting fuller advices from Professor Nicholas before deciding what to order, and in the meantime only a small call had been made on the shares—sufficient, however, to continue development and general work on an active scale. The Chairman concluded by reading a cablegram received from Professor Nicholas, in which he stated that the main shaft was sunk to a depth of 70 feet, and the estimated value of the reef in the north level was 26 ounces to the ton. The general condition and outlook of the workings was encouraging, and a suitable site existed on the property for the construction of a dam. The Chairman added that the directors had cabled instructions to have a dam constructed as quickly as possible. A vote of thanks to the Chairman concluded the proceedings.

JACKSON GOLD FIELDS.—The directors on Saturday last, September 7, received a cablegram from the general manager at the mine stating "that a large body of low grade ore had been struck as they went down on the reef at the 200 feet level," which would pay handsomely to work with the 40 stamp mill already on the property.

THE BROOKMAN BROS. BOULDER GOLD MINING COMPANY (LIMITED).—This is the title of a new West Australian company recently floated. The capital is £120,000, the whole of which, we are given to understand, has been subscribed for five times over. The object for which it has been formed is to acquire and work two mining leases known as the Marvel and Park, numbered 710 and 749, situated in the famous district of Hannan's, the area of which lease is about 36 acres. According to the prospectus, a copy of which we have obtained, the reef has been proved to a depth of 200 feet on the Great Boulder claims, and the experts who have examined the property have little doubt that the Lake View line of reef also traverses both leases. The properties were selected by Mr. Brookman, who, also, was instrumental in discovering the Great Boulder, the Associated, and the Lake View claims. Mr. George Brookman has consented, we learn, to act as managing director of the company.

We note that Mr. John Webster, M.E., M.A.I.M.E., is leaving for South Africa on the 21st inst., and amongst other districts will visit Malabesland, Mashonaland, and Bechuanaland.

The EXPLORERS SYNDICATE, Limited, Copthall House, E.C., INVITE SUBSCRIPTIONS for the under-mentioned mine.

The PUBLIC SUBSCRIPTION LIST will CLOSE THIS DAY (Saturday), the 14th SEPTEMBER, at 2.0 p.m., for Town, and on MONDAY, the 15th SEPTEMBER, at Noon, for Country.

Mr. Florence O'Driscoll states:—"I believe this group of Leases (Menzie's Pioneer) to be amongst the best on the field; the direct line of the main reef traversing the field with north-westerly and south-easterly direction passes through the centre of the property."

MENZIES PIONEERS, LIMITED.

MENZIES GOLD FIELD, WESTERN AUSTRALIA.

Incorporated under the Companies Act, 1862 to 1890.

Capital £120,000.

Divided into 120,000 Shares of £1 each, of which 40,000 are set aside for Working Capital. 65,000 are now OFFERED for PUBLIC SUBSCRIPTION at par, payable 2s. 6d. on application, 7s. 6d. on allotment, and the balance in calls not exceeding 5s., at not less than two months' interval. Shares may be paid up in full at any time.

This Company, in addition to Mining, will act as an Exploration and Finance Company.

DIRECTORS.

GEO. F. FULCHER, Esq., Everleigh, Chingford, Essex.
CHARLES HUBBARD, Esq., (Linton, Hubbard, and Co.), 27, Leadenhall Street, E.C.

G. C. LEVEY, Esq., C.M.G., Montague Villa, Richmond, Surrey.
JOHN MORISON, Esq., (Morrison and Marshall), Winchester House, E.C.

EDWARD T. READ, Esq., Copthall House, E.C., Chairman of the Explorers Syndicate (Limited).

Bankers—The Commercial Bank of Scotland (Limited), 62, Lombard Street, E.C. Head Office: Edinburgh, Glasgow, and branches in Scotland.

Consulting Engineers—Messrs. Bewick, Moreing, and Co., Broad Street House, E.C.

Brokers—Messrs. John Gibbs, Son, and Co., 31, Threadneedle Street, E.C., and Stock Exchange.

Solicitors—Messrs. Vallance, Burkbeck, and Barnard, Lombard House, E.C.

Auditors—Messrs. Ford, Rhodes, and Ford, 23, College Hill, E.C. Secretary and Offices (pro tem.)—F. H. Goble, Esq., Copthall House, Copthall Avenue, E.C.

ABRIDGED PROSPECTUS.

This Company has been formed as an Exploration, Finance and Mining Company, particularly in connection with Menzie's District, in West Australia. It will also immediately acquire five adjoining Gold Mining Leases or Claims in this district, known as the Menzie's Pioneer Group, and being the Lady Harriet (1404), 24 acres; the Lady Harriet North (3040), 18 acres; the Lady Harriet South (3070), 12 acres; the Day Dream (3032), 18 acres; and 3088, 12 acres, comprising an aggregate area of 84 acres (see plan enclosed with Prospectus). It will further develop these properties, and, if thought advisable, form subsidiary Companies to work portions of same.

The property is held from the West Australian Government, and Mr. Ballard reports that it is situated on the mother vein, in Menzie's District, about 110 miles north from Coolgardie, and about one mile south of the Lady Shenton and Florence Gold Mines.

MENZIES GOLD FIELD.

Nothing has been more remarkable in the development of Western Australia than the progress of Menzie's, and its rapid advance is described in the extract enclosed with Prospectus from the *Financial News* of July 20th, 1895.

The following London Companies have already acquired interests in the Menzie's District, and the field is now one of the best known and most promising in the Colony of Western Australia:—

The L. and W. A. Exploration Co. (Limited).
The L. and W. A. Investment Co. (Limited).
The Menzie's Mining and Exploration Corporation (Limited).
The Menzie's Gold Reef Proprietary Co. (Limited).
The Florence Gold Mine (Limited).
The Central Menzie's Gold Mines (Limited).
The Gold Estates of Australia (Limited).
The Menzie's Gold Estates (Limited).
The Lady Shenton Gold Mine (Limited).

The increasing confidence and favour with which this District is regarded appears to be thoroughly justified by the published reports of the richness and continuity of the ore bodies which are being daily opened up.

It is confidently expected that ample supply of water for mining and milling will be obtainable as depth is attained. On another property on this Gold Field water, nearly fresh, was struck at 160 feet deep, and, further, Menzie's Water Works (Limited) has recently been formed to supply Menzie's district with water for milling and other purposes.

The property to be now acquired has been reported on by Mr. R. Ballard, late Consulting Engineer to the Mount Morgan G. M. Co. (Limited), of Queensland, and now General Manager in charge of Menzie's Gold Estates (Limited), and by Mr. Maurice Nolan, Mining Manager in charge of Menzie's Gold Estates (Limited).

In addition to these Reports, statements regarding the property have been furnished by Mr. W. A. Mercer, of Messrs. Bewick, Moreing and Co., and by Mr. Florence O'Driscoll (who have an interest in the property).

Particular attention is directed to these Reports and Statements, copies of which accompany the Prospectus, and from which it appears that the property has been thoroughly examined by Mr. Mercer and Mr. Ballard, who report that there are nine shafts already open, varying in depth from a few feet to 45 feet; that nearly all the samples taken by both these gentlemen showed gold, some of them giving from 2 to 4 ounces to the ton.

Mr. Ballard, in his report, states:—"I entirely agree with the remarks made by Mr. Mercer in that paragraph of his report headed 'General.'"

Particular attention is directed to a supplementary report from Mr. Ballard, received by cablegram on 6th September, a copy of which is enclosed with the Prospectus. It will be noted that in conclusion he states:—"I can agree exactly with what has been said by Nolan in his report, which is to hand to-day. I consider this property to be one of the finest on this part of the gold field, and I venture to predict a prosperous future for the Pioneer group under fairly judicious management."

Mr. Nolan, in a cable report, received from him on September 7th (a full copy of which is enclosed with the Prospectus), states:—"Reefs in property are largest Menzie's gold fields, carry gold greater distance than any other district. . . . I have taken samples many times from one end of the leases to the other, and have tried the reef which appears in Brown's main shaft in a northerly direction through 1404 on the surface every few feet by means of washings, and have found gold all the way. Consider future prospects Pioneer group really good. I have not the slightest hesitation to recommend venture for investment of capital."

The large amount set aside for working capital will supply not only ample funds for further development work and machinery, but will enable options upon other properties to be acquired if it is thought desirable to do so, the field being yet in its infancy. There is ample scope for profitable business by the development and resale of such properties, and even of portions of the property already acquired.

For Contracts see full prospectus. Prospectuses and Forms of Application may be obtained from the Bankers and Brokers, and at the Offices of the Company.

LATEST FROM THE MINES.

CABLEGRAMS AND TELEGRAMS.

AFRICAN ALLUVIAL.—Cablegram from superintendent engineer, Mr. Nicess, September 8:—"Have reached the rich alluvial below top dirt; preparing to commence work."

ANCHOR TIN MINE.—The directors recently received the following cablegram as to the operations in progress at the mine:—"Hydraulic working flat depth 8 feet. Sunk shaft 13 feet; no bottom yet. Produced several tons tin."

BARRETT GOLD.—August gold return 283 ounces. The manager cables that native labour has been very scarce, and the transport service delayed in consequence:—"All available force concentrated on new tram line connecting 'Bannisters' with mill, which line will probably be completed and running by middle September."

BAYLEY'S REWARD No. 1 SOUTH.—The following cable, dated the 7th instant, has been received by this company's London office, from its head office at Melbourne:—"Mine is looking well; now driving on level, 120 feet good gold."

BIG BLOW.—The manager has cabled the following report of a crushing by the improvised battery of eight stamps, temporarily erected:—"104 tons, 44 ounces of gold. Assay of tailings 4 dwts. per ton."—Note by the managers. The crushing by this temporary battery has been suspended in consequence of the hired engine, which worked very unsatisfactorily, being no longer available, and the erection of the permanent battery (the whole of the machinery for which is now on the ground) is being pushed forward with all speed. The short run recorded cannot be taken as a test of the yield of the ore, as the amalgamating plates being new would absorb a considerable portion of the gold.

BUFFELSDOORN CONSOLIDATED.—"No. 1 incline shaft is now down 95 feet. At this point assay shows 16 dwts. Thickness of reef 6 feet."

BROKEN HILL PROPRIETARY.—The manager cables that for the week ending September 12, 8650 tons of ore were treated, yielding 675 tons of lead containing 130,650 ounces silver, also 1611 tons treated by amalgamating and leaching plants producing 20,059 ounces silver. The price of the shares in Melbourne is £1 18s. Od., buyers.

BLOCK B LANGLAAGTE.—Production for August, by cable:—Mill. Stamps running, 75; ore crushed, 8220 tons of 2000 lbs.; gold returned, 2540 ounces. Tailings, cyanide process. Tons treated, 5060 tons of 2000 lbs.; gold recovered, 606 ounces. Concentrates, cyanide process. Tons treated, 168 tons of 2000 lbs.; gold recovered, 435 ounces. Total gold recovered, 3581 ounces.

BONNIE DUNDEE.—The directors have received the following cablegram from Charters Towers:—"Have crushed 176 tons of quartz for a yield of 220 ounces of gold. Good progress is being made with the work of developing the Victory reef. The approximate value of this return is £700."

CARATAL.—The superintendent in Venezuela reports that during last month 299 ounces 18 dwts. of gold was obtained from the company's mill under the contracts that were entered into by him to crush ore from neighbouring mines, as published on August 29. The unwatering of the mine has been commenced, and the plant for the treatment of the tailings was nearly completed.

CAYLLOMA SILVER.—The manager at the mines reports August production 10,750 ounces fine in export ores. Mill being closed for repairs, 30 stamps now running. Toro mine dry, recommenced sinking shaft.

CENTRAL DE KAAP.—In reply to a cablegram asking the manager if the strike reported by cablegram four weeks ago, and which gave average assays of 1 ounce 7 dwts., was developing satisfactorily, the following cable reply has been received:—"Strike: Last week's assays were 2 ounces 5 dwts. per ton; will undoubtedly be considerably higher this week." By letter received last mail manager reports this strike as being in the 180 feet level in No. 4 shaft.

CONSOLIDATED BELLINGWE DEVELOPMENT.—The following cablegram has been received from the manager (Mr. D. Tyrre Laing), dated Bulawayo, September 11:—"A rich strike has been made at 100 feet level Zeelandia shaft, the ore body continues to increase in size. The ore is exceedingly rich."

CROWN REEF.—Results for August: Yield in smelted gold from 120 stamp mill, 7398 ounces; yield in smelted gold from 120 stamp cyanide works, 4133 ounces; total, 11,531 ounces.

CRESCENS (MATABELE) MINES.—The following cablegram has been received from the managing directors of this company in Bulawayo:—"Land survey complete Anterior; two shafts each 100 feet. Struck reef, very rich both places. The vein is fully 3 feet in width. There is every indication that the vein will continue its size in depth; continue sinking."

DE LAMAR.—The following is the cabled return for the month of August:—"Crushed during the month 4000 tons; bullion produced in the mill, \$75,091; estimated value of ore shipped to smelters, \$5500; miscellaneous revenue, \$640; total produce, \$81,231; total expenses, \$41,670; profits for the month of August, \$39,561; or at \$4.90 to £ sterling, £8074."

DURBAN-ROODEPOORT.—The following results for August have been received by cable:—"Quartz milled 8495 tons, 60 stamps, 29 days, 4159 ounces; tailings treated 7315 tons, 29 days, 1847 ounces; total, 6006 ounces." A cablegram was received on the 28th ult., notifying that the additional 20 stamps started work on that day, and the directors expect the results for September will be favourably affected by this addition."

DAY DAWN BLOCK AND WYNNDHAM.—The directors received the following cablegram from the general manager at Charters Towers, giving the result of the crushing for the fortnight:—"1000 tons crushed, yield of gold 638 ounces, approximate value £2200. Fortnight's expenses, £1716."

EAST RAND PROPRIETARY.—The Anglo-French Exploration Company, as agents for the East Rand Proprietary Mines (Limited) have received information by cablegram from the head office in Johannesburg to the following effect:—"New Comet commenced crushing September 1. The south reef has been struck in the Cason Block, on the boundary of the New Cinderella Company, in the drill hole, at a depth of 544 feet. The reef is 3 feet 3 inches, and assays 17 dwts. The footwall is 15 inches, assaying 33 dwts. The hanging-wall, 9 inches, assaying 18 dwts."—Official Note: This is considered highly satisfactory. The secretary draws the attention of shareholders to the importance of immediately returning to him their proxies duly filled up.

EAST ORION.—The following cablegram has been received at the London office from the head office in Johannesburg:—"The manager's report have discovered another reef on the property, east section, 10 feet wide; reef has an average assay value of 10 dwts. per ton; expect to start milling about November."

ELKHORN.—The following is the cabled return for the month of August:—"Mill worked 30 days and crushed 1163 tons; bullion produced in the mill, \$27,130; 17 tons of smelting ore sold, \$902; total produce, \$28,032; total expenses, \$21,438; estimated profit for the month, \$6594; or at \$4.85

to £ sterling, £1383. The board consider it advisable not to pay any further dividends until more encouraging information has been received from Mr. Molson as to the probable future of the mine."

EAGLEHAWK CONSOLIDATED.—The directors have received the following cablegram, dated Maldon, September 7:—"Battery boilers burst; has done considerable damage."

FERREIRA.—Copy of cablegram received from Johannesburg:—"Results for August. Tons crushed 4390, bar gold extracted 4793 ounces, concentrates caught 157 tons, assay value of concentrates 6 ounces 10 dwts. fine gold per ton."—Cyanide works. Bullion produced from tailings 1198 ounces."

GOLDEN FEATHER.—The following cablegram has been received from the company's general manager at Oroville:—"Cleaned up on Saturday, retorted to-day (Monday), giving gold bars value about \$4800. Going ahead very promising. Everything is going well."—Official Note. The board are awaiting fuller details; so soon as received, will be communicated to the shareholders."

GOLD FIELDS OF MOZAMBIQUE.—The following report has been received from one of the sub-companies, namely, the Lion (Mozambique) Gold Company (Limited):—"Our superintendent engineer, cabled on September 8. Lion. Struck a rich body of ore in new drive main reef."

GOLCONDA.—August returns:—"We have cleaned up after a run of 209 hours, 205 tons, 360 ounces. An average sample of tailings assayed 6 dwts. per ton."

GOLDEN GATE.—The manager, Mr. Plant, cables from Charters Towers as follows:—"The present depth of bore from surface is 2350 feet. Appearances are favourable."

GLENCAIRN MAIN REEF.—The London agents announce receipt of the following cable:—"Production for August 5206 ounces, profit £7758: 70 stamps, 30 days."

GELDENHUIS ESTATE.—Results for August: A cablegram has been received from the head office at Johannesburg, stating the following results for last month:—"Crushed, 15,300 tons; obtained from mill, 5607 ounces of gold; from tailings by cyanide, 2181 ounces of gold; total, 7788 ounces of gold."

GEORGE GOCH.—The result of work done during August is as follows:—7020 tons crushed, yielding 1948 ounces, and 451 ounces from tailings."

HANNAN'S STAR.—A telegram has been received from the mine manager:—"Inclined shaft. The lode has been proved to a depth of 90 feet; 6 feet in width, carrying gold. Main shaft is down 90 feet. Expect to strike reef at 150 feet. West shaft is down 60 feet."

HAMPTON GOLD FIELDS.—The directors have received a cablegram from the manager, Mr. E. Graham Price, as follows:—"Orient. Have struck reef at a depth of 190 feet. The reefs show visible gold."

HENRY NOURSE.—Crushing for August 29 days; 5100 tons produced 3045 ounces; cyanide 3660 tons produced 1165 ounces."

JUMPERS (THE).—Results for August: A cablegram has been received from the head office at Johannesburg, stating the following results for last month:—"Crushed, 10,622 tons; obtained from mill, 4656 ounces of gold; from concentrates, equal to 773 ounces of gold; from tailings by cyanide, 1650 ounces of gold; total, 7079 ounces of gold; profit, £10,900."

LADY LOCH.—The Directors have received the following cablegram from the mines:—"Lady Loch. The winze in level is now down 145 feet. The width of the reef is 4 feet. The average of the samples from this winze is 5 ounces of gold to the ton.—Lady Forrest: The depth of the underlie shaft is 95 feet. The width of the reef 3 feet 6 inches, averaging 2 ounces 10 dwts. of gold to the ton."

LANGLAAGTE ESTATE.—Production for August, by cable:—Mill. Stamps running, 160; ore crushed, 20,680 tons of 2000 lbs.; gold returned, 7023 ounces. Tailings, cyanide process. Tons treated, 24,640 tons of 2000 lbs.; goods recovered, 2506 ounces. Concentrates, cyanide process. Tons treated, 585 tons of 2000 lbs.; gold recovered, 1943 ounces. Total gold recovered, 11,472 ounces."

LAWLER'S GOLD.—The following cable has been received:—"Deeds are in possession of Recorder. Titles have been examined and are in perfect order. The Red Bear and Red Bull Mines have already been paid for. The property is now being patented. The mine looks exceedingly well. Connection has been made between the adit and No. 3 shaft proving a large body of ore in sight, which has opened up well, and confirms Mr. Pearce's report."

LOMA GOLD.—The secretary reports that he has received a cablegram from Mr. William St. David Griffith, at Tablazo, advising a clean up of \$1910, giving a profit on the run of \$1000 (gold)."

LOMBARDY GOLD.—The following cablegram dated Cue, September 9, has been received:—"Mine is looking well."

LISBON-BERLYN.—The directors have received a cable from the manager, giving the following results for the month of August:—"Milled 1215 tons of 2000 lbs.; recovered 84 ounces; tailings treated by cyanide, 1460 tons of 2000 lbs.; recovered 438 ounces; total recovered, 522 ounces."

MACK SYNDICATE.—The following cable has been received from the company's manager in Salisbury, Mashonaland:—"Mining engineer's report on our Ayrshire property most favourably. Ayrshire reef without doubt passes through our 40 claims. Full report is sent by mail."

MAY CONSOLIDATED.—The following cable message, dated Johannesburg, September 7, has been received at the office:—"The yield of gold during the past month (August) was 3585 ounces from 10,600 tons crushed. Mill running 30 days. Cyanide 2445 ounces from 13,040 tons." The following cable message has also been received:—"Dividend at the rate of 10 per cent. declared payable to those registered on September 16. The transfer-books will be closed from September 17 to 23, inclusive."

MEYER AND CHARLTON.—Result of working for month of August:—"Crushed 6905 tons, gold won 2656 ounces, extracted from tailings 1089 ounces, total 3745 ounces; profit for month £5570."

MENZIES "CRUSOE."—This company has received cable information that the check assays made by the Government assayer more than corroborate the results given by the manager (Mr. Wm. Jowett) in his original report on the Robinson Crusoe and Crusoe East Claims, which have been recently notified in the Press."

NEW CLEWER ESTATE.—Results for August:—"From mill working 24 days: Crushed 1757 tons, yielding 709 ounces of gold.—From cyanide works: Treated 659 tons, yielding 770 ounces of gold. Total yield, 1479 ounces of gold. Total value, £3508; estimated profit, £1000."

NEW CRESCUS.—Production for August (60 stamps 30 days) 3084 ounces."

NEW PRIMROSE.—The London agents announce receipt of the following cable:—"Production for August 12,206 ounces, profit £17,505; 160 stamps, 30 days."

NEW RIETFOONTEIN.—During August crushed 3952 tons; obtained, 1599 ounces gold. Cyanide works treated 3140 tons, yielding 664 ounces; concentrates 65 ounces. Total 2328 ounces."

NEW KLEINFONTEIN.—The Anglo-French Exploration Company as the London Agents for the New Kleinfontein Company (Limited) have received the following information by cablegram from Johannesburg:—"The result of the crushing for the month of August was as follows: From the mill 2070 ounces; from the treatment of tailings 759 ounces; making a total of 2829 ounces. As compared with last month 2826 ounces. The number of tons developed was 8980. As compared with July 8780."

NEW QUEEN.—The directors have received the following cablegram, dated Charters Towers, September 9:—"We have struck formation."

NIGEL.—Last month's crushing yielded 1889 ounces battery, 1618 ounces cyanide, 217 ounces retreatment."

NIGEL DEEP.—The mine manager reports as follows to August 14:—"Shaft A down 24 feet, B down 59 feet, C down 46 feet, D down 72 feet, E down 50 feet."

PORGES RANDFONTEIN.—Production for August, by cable:—Mill. Stamps running, 60; ore crushed, 6557 tons of 2000 lbs.; gold returned, 3503 ounces. Tailings, cyanide process. Tons treated, 3355 tons of 2000 lb; gold recovered, 447 ounces. Concentrates, cyanide process. Tons treated, 61 tons of 2000 lbs.; gold recovered, 164 ounces. Total gold recovered, 414 ounces."

PAARL CENTRAL.—A cablegram has been received from the head office at Johannesburg, stating the following results for last month, August:—"Mill: Crushed 5103 tons, yielding 2176 ounces of gold. Cyanide works: Treated 2703 tons, yielding 962 ounces of gold; total, 3138 ounces of gold; total value, £11,000."

PRINCE'S GOLD MINES.—The following telegram, say the directors, has been received by one of the largest shareholders, who instructed his own engineer to make an independent inspection of the property acquired by the company:—"Carefully examined property, Hamilton's report more than confirmed. Fern reef running right through, pannings from outcrop give 18 dwts., full report by mail."

ROBINSON.—Production for August: By cable. Mill: 13,874 tons of ore crushed. Yielded in smelted gold 11,064 ounces, from concentrates (by chlorination) 1316 ounces from tailings (cyanide process) 1677 ounces, from own ore 14,057 ounces, from concentrates bought (by chlorination) 1878 ounces; total gold recovered 15,935 ounces."

SALISBURY.—Last month's crushing yielded 2450 ounces battery stopped eight days."

SIMMER AND JACK.—Crushed 12,030 tons, obtained 3458 ounces of gold from mill—598 ounces of gold by chlorination and 1487 ounces of gold from tailings by cyanide during August."

SPITZKOP FARM.—Produce of 10 stamp mill for August. Mill crushed 857 tons ore, yielding 74 ounces. Cyanide gave 195 ounces. Total, 269 ounces."

TRANSAAL GOLD EXPLORATION.—The directors have received the following cablegram:—"Ore mined, 2250 tons; ore treated, 2550 tons, yielding 1850 ounces; tailings, 1975 tons, yielding 1225 ounces; total, 3075 ounces. Estimated value of bullion, £8425; working expenses, £4409."

VAN RYN GOLD MINES ESTATE.—Production for month of August by cable:—"Mill. Number of days working, 28; number of stamps working, 50; tons milled, 4464; number of ounces recovered, 1933.—Concentrates. Production for month in ounces, 63.—Cyanide works. Number of tons treated, 4735; number of ounces recovered, 900; total amount of gold recovered, 2896 ounces."

VICTORIA GOLD MINING ASSOCIATION.—The following cablegram has been received at the London office:—"230 tons crushed, yielded 384 ounces gold."

WAIHI SILVERTON EXTENDED.—In reply to a cable sent to the local committee at Auckland on the 3rd inst. by the directors of this company, asking if it was advisable to purchase a further 20 head of stamps, and when the crushing with the present 20 head of stamps would commence, the following reply has been received:—"40 stamp mill. Sufficient ore for the mill; mill working day and night; shall commence crushing ore towards end of October."

WEMMER.—The result of work done during August is just to hand:—"7200 tons crushed, yielding 4959 ounces. 50 stamps working 30 days, and from cyanide plant 4500 tons treated, yielding 1562 ounces. 190 tons concentrates caught, assaying 124 dwts. (6 ounces 4 dwts.)"

THE THAMES (NEW ZEALAND) GOLD FIELDS RETURNS FOR JULY.

LOWER THAMES.			
	os. dwts.	Value.	
Alburnia Co., tailings ..	14 0 ..	£36 18 3	
Alburnia tribute ..	24 0 ..	60 0 0	
Cambria Co., 29 loads ..	48 1 ..	118 5 0	
Little Willie claim, 18 lbs. ..	11 18 ..	32 0 0	
May Queen Co., 528 loads ..	668 4 ..	1,854 5 3	
May Queen trib., 13 loads ..	72 12 ..	196 10 5	
Moanatairi Co., 273 loads ..	282 17 ..	637 8 0	
Moanatairi trib., 350 tons ..	77 13 ..	207 10 0	
North Star trib., 9 loads ..	16 17 ..	43 0 0	
Occidental tribute, 24 lbs. ..	27 16 ..	76 0 0	
Orlando Co. ..	9 10 ..	25 0 0	
Victoria Co., 14 loads ..	6 10 ..	15 10 0	
Victoria tributes, 4 loads ..	46 4 ..	127 1 0	
Waitohi Co., 215 tons ..	207 0 ..	569 0 0	
Total ..	1,258 2 ..	£3,998 8 5	
UPPER THAMES.			
	os. dwts.	Value.	
Waihi G.M. Co., 2,910 tons ..	7,294 0 ..	£9,518 0 0	
Waitakauri, 154 tons ..	688 0 ..	730 0 0	
Waitakauri tailings ..	758 0 ..	387 0 0	
Woodstock United, 240 tons ..	1,500 0 ..	988 0 0	
Cassell Co., tailings, 1,050 tons ..	— ..	354 0 0	
Mr. Gordon's tailings, 2 tons ..	206 10 ..	499 7 6	
Total ..	9,046 10 ..	£12,539 7 6	
COROMANDEL.			
	os. dwts.	Value.	
Hauraki G.M.C., 142 tons ..	3,269 0 ..	£9,807 0 0	
Kapanga, G.M.C., 60 tons ..	496 0 ..	1,438 0 0	
Lillie's, Whangapoua, 20 tons ..	34 3 ..	100 0 0	
Hauraki, Edmonds' tribute, 20 tons ..	30 16 ..	95 0 0	
Total ..	3,799 19 ..	£11,440 0 0	
KUAOTUNA.			
	os. dwts.	Value.	
Try Fluke, 500 tons ..	261 0 ..	£567 12 10	
Invicta tribute, 100 lbs. ..	101 10 ..	253 15 0	
Kapai-Vermont, 286 tons ..	894 0 ..	2,335 0 9	
Total ..	1,256 10 ..	£3,065 7 10	
Grand Total ..	15,361 1 ..	£31,043 3 1	

REPORTS FROM THE MINES

BRITISH MINES.

LEADHILLS.—W. H. Paull, September 9: Brown's vein. In the 160 feet level, driving north of Jeffrey's shaft, the vein is 4 feet wide, composed chiefly of stone and spar, producing good stones of lead ore at times. In the stope over this level south of Jeffrey's shaft the vein is 4½ feet wide, and will yield 30 cwt. of ore per fathom. The vein in drift over this level, south of Wilson's shaft, is worth 60 cwt. of ore per fathom. No. 4 stope over the 145 fathom level, north of Jeffrey's shaft, is now yielding 40 cwt. of ore per fathom. Nos. 1 and 2 stopes above the 115 fathom level, north of Jeffrey's shaft, are worth respectively 30 and 35 cwt. of ore per fathom. The vein in the 100 fathom level going south of Wilson's shaft is rather contracted, and continues soft and unproductive. In the drift south of rise over this level the vein shows more spar, strongly interspersed with lead ore, yielding saving work. The other workings on this vein are without any material change since last reported on.—Raik and Highwork veins. In cross-cut going east at the 100 feet level the ground shows faces of spar on the joints, and the end is a little damp but no other change therein. The 100 fathom level driving north of this crosscut on Raik vein now yields 40 cwt. of lead ore per fathom, and same level going south of crosscut will yield 20 cwt. of ore per fathom.

COLONIAL, INDIAN, AND FOREIGN MINES.

AURORA WEST UNITED.—Mine report dated August 16 shows that development is being pushed ahead. The main reef has also been prospected and pans well. An assay went 18 dwts. 10 grains per ton. Permanent works will be dealt with and laid out by the consulting engineer as soon as possible.

AUSTRALIAN BROKEN HILL CONSOLS.—The mining manager reports by mail for the fortnight ended August 1, 1895:—Block 96, 280 level east prospecting drive No. 4 rise, driven 13 feet 6 inches; total, 40 feet. The lode here is very small and rising fast, expect to break through shortly with No. 2 shaft, block 97, and thus obtain splendid ventilation. N.E. stope driven 13 feet. No change. Rise near shaft driven 13 feet, total 37 feet. The lode is still consisting of oxidised matrix, carrying 2 veins of iron and carbonate of iron. Galena has been met with. 280 level west driven 18 feet, total 259 feet 6 inches. No change. Incline No. 6 level east, driven 10 feet, total 67 feet. The lode is more compact and well defined; a little galena has been met with. No. 5 level east, No. 1 rise, men resumed work here yesterday, after finishing the dam in 280 level east, which is holding the water well as far as it has risen. Diamond drill: No. 2 bore has been put down to a depth of 205 feet, passing through a lode of calotte at a depth of 168 feet and 183 feet respectively, and a third bore has been started on Block 163. Note: The quantity of rock mined during this fortnight was 2420 cubic feet.

CRUCES SOUTH UNITED.—The manager reports under date August 6:—The Brownhill lode is very rich, and if we get the like in gold, which may be reasonably expected, your property will rank as one of the best at Hannan's, and worthy of any outlay. Should gold occur as rich as Brownhill we will cable at once. We think a greater depth is wanted on our lease, although the same lode carrying gold is now being worked by us, but the richness is not equal.

GEM OF CUE.—Mr. J. Whitelaw, taking charge as manager writes to the directors under date August 2:—"I have the honour to report having duly taken control of the Gem of Cue property, the satisfactory result of the late crushing, viz. 25 tons 28 ounces, which was completed on July 27 at the Otis mill, will have been notified to you by Mr. Gale, as also particulars connected therewith. I purpose forwarding you a general resume of the workings at present on the mine, with plan showing shafts, drives, course of lodes, &c., as also my proposed intentions for future operations in the development of the property. I will not now particularise the work done, but will content myself with stating that, having made a thorough examination of the property up to the present stage of development, I am highly pleased with the result, and am satisfied that the lodes when systematically worked will prove both lasting and remunerative."

HOLCOMB VALLEY.—In Mr. Erichson's report to the board, received on the 9th inst., he states:—"I have to report that I duly arrived here on Wednesday morning last and have spent the intervening two days in going about the property. I don't like to give any final report on the condition of things here yet, as I don't know enough about them, but speaking generally, I think the position is pretty satisfactory. I am speaking now of the company's plant, building, &c. The poor results we have had are due, first, to the fact that the work has been commenced from the outside of the gravel bed, where the gravel is thin and comparatively poor, and the stuff thick, and secondly to want of grade, and you may take it once and for all that this is our great difficulty. We spent the whole of yesterday in running under varying conditions, with the result that we find that with the 40 inches of water (which is about the maximum that we can rely on at this time of year) we can work on at almost any grade, but when the grade is flat, the water will carry only a very small quantity of gravel, and that involves that the shovel is only working at half power or less."

SEGOVIA.—The resident superintendent writes under date July 4, as follows:—"Since writing my last letter, dated June 7, I have changed the pipes from the south end of the mine, where I had made a number of explorations pending the arrival of the Chacon pipes, and have now placed them near the north boundary. The opening made is showing up quite satisfactory. During the week I have faced up a front carrying a bank of gravel 50 feet thick, and easily washed. Unfortunately, through lack of pipes, I can secure but 30 feet of head, so that it is very slow work washing. The gold is very fine and difficult to save in the sluices. I am, however, increasing the length of sluice and number of under-currents in order to prevent losses."

VICTORY (Charters Towers).—Copy mining manager's report for fortnight ending June 27: During the past fortnight stoping has been carried on above No. 2 level on Papuan reef which has averaged about 9 inches. The quality of the stone is much about the same, 20 tons having been hauled for the fortnight.—No. 2 shaft. The cross-drive in the 320 feet level has been driven 7 feet, present length of this drive is 35 feet. The country is very hard and bad shooting. I do not expect to get much change here until we get in 50 feet.—No. 1a. The rise above this drive is looking better than it has done for some considerable time; we are getting some very good looking stone here the last few shifts; it is from 6 to 18 inches, carrying good mineral. In the underhand stope in intermediate there is 6 inches of reef, the quality is very irregular, sometimes good looking stone and then very poor looking. The winze in No. 7 level has been sunk 13 feet, total 70 feet. The reef in bottom is about 6 inches and turned very white and hungry looking. I have stopped sinking here and am engaged stoping on some fair looking stone 12 feet from bottom of winze. There has been 60 tons hauled from this shaft for the fortnight.—No. 3 shaft. Since my last report this shaft has been timbered 21 feet 8 inches, making in all 54 feet 8 inches timbered, and sunk a further distance of 21 feet, the present depth being 81 feet. The water has been turned into chamber, which will hold 36 hours' water. There is very little going into bottom of shaft and that can be stopped after the next timbering. A contract has been let to sink it 26 feet. The contractors start on Monday morning the 29th inst. The carpenters' work is finished and everything in thorough good order on the surface, except a few days' work that can be done by a labourer.—(Signed) Jos. Taylor.

WAIHL.—In continuation of information given in the circular of August 12, shareholders are now informed that the No. 2 level has been continued through the Martha reef, which at this point is 18 feet in width. The assays showing its value for gold only through the reef, at the point of intersection, are as follows:—For 4 feet, 11½ dwts. per ton; for 5 feet, 31 dwts. per ton; for 4 feet, 17 dwts. per ton; for 2 feet, 7 dwts. per ton; for 3 feet, 6 dwts. per ton.

NEW ISSUES.

CENTRAL WEALTH OF NATIONS (LIMITED).

This company, with a capital of £160,000, has been formed for the purpose of acquiring a block, comprising claims Nos. 1026, 1027, and 1034, lying immediately south of and adjoining the Wealth of Nations Mine, situate in the Coolgardie Gold Fields, Western Australia. The property, according to the prospectus, consists of a total area of 62 acres, or thereabouts, on the line of the Wealth of Nations Reef, "which passes through each of the claims 1026 and 1034, dipping into claim 1027, through which latter claim, as well as through claim 1034, a rich cross reef runs." Mr. J. C. Jesson, manager of "Barbank's Birthday Gift," in his report on claims 1027 and 1026, says:—"The outcrop is traceable for a distance of 80 yards on the surface, and is similar to that on the parent claim. At the southern end of the 80 yards the reef dips into the ground, and will have to be sunk for on the dip, and should be reached inside 50 feet. The quartz consists of a fine sugary laminated quartz, carrying a quantity of ironstone—a sure indication in Coolgardie of rich gold in a reef." Mr. Robert B. Gleisberg, M.E., Freiberg, in his report on lease No. 1034, says:—"The celebrated Wealth of Nations reef, on which, with comparatively little work, such good prospects have been obtained, already stated, runs right through the property from north to south. The second reef of which I have spoken crosses it with an east-north-easterly course, and at the intersection of these two reefs a rich gold shoot will in all probability occur; such is usually the case in the Coolgardie gold fields under similar circumstances." Whilst Mr. Brenton Symons, M.I.C.E., in his report on all three leases, remarks:—"The lease No. 1026 is immediately south of and adjoining the Wealth of Nations, and contains the extension of that celebrated reef, the great bonanza, from which £20,000 worth of gold was found in the outcrop, is only about 60 yards from the northern boundary of this claim. Appearances lead me to the opinion that the extension of the Wealth of Nations rich shoot will at a greater depth be found on this claim (1026). Near the centre of this claim a vertical shaft has been sunk to cut the Wealth of Nations lode at a good depth. At my visit this shaft was already down 100 feet. The lode wherever exposed is strong with well-defined walls, yielding quartz of good quality showing gold. The Wealth of Nations lode at the southern limit of 1026 enters the claim No. 1034, and traverses its entire length, and as the dip is 70° to 75° south-west, the lode will be cut in depth in claim 1027."

THE MENZIES PIONEERS (LIMITED).

The above company has been brought out by the Explorers Syndicate (Limited), who invite subscriptions for the capital of £120,000. The company is formed as an exploration, finance, and mining company, particularly in connection with the Menzies District in West Australia. It will also immediately acquire five adjoining gold mining leases or claims in this district known as the Menzies Pioneer Group, and being the Lady Harriet (1404), 24 acres; the Lady Harriet North (3040), 18 acres; the Lady Harriet South (3070), 12 acres; the Day Dream (3032), 18 acres; and No. 3088, 12 acres; comprising an aggregate area of 84 acres. It will further develop these properties, and, if thought advisable, form subsidiary companies to work portions of the same. The property is held from the West Australian Government and Mr. R. Ballard reports that it is situate on the mother vein in Menzies District, about 110 miles north from Coolgardie, and about one mile south of the Lady Shenton and the Florence Gold Mines. The property to be now acquired has been reported on by Mr. R. Ballard, late consulting engineer to the Mount Morgan Gold Mining Company (Limited), of Queensland, and now general manager-in-charge of Menzies Gold Estates (Limited), and by Mr. Maurice Nolan, mining manager-in-charge of Menzies Gold Estates (Limited). In addition to these reports, statements regarding the property have been furnished by Mr. W. A. Mercer (of Messrs. Bewick, Moring, and Co.), and by Mr. Florence O'Driscoll (who have an interest in the property). Messrs. Mercer and Ballard report that there are nine shafts already open, varying in depth from a few feet to 45 feet; that nearly all the samples taken by both these gentlemen showed gold, some of them giving from 2 to 4 ounces to the ton. "Having in view the above statements," says the prospectus, "the large extent of this property, the development work which the reports show to have been done, and the ore they show to have been discovered, the directors believe that this property has all the elements necessary to secure satisfactory results for the shareholders. The large amount set aside for working capital will supply not only ample funds for further development work and machinery, but will enable options upon other properties to be acquired if it is thought desirable to do so, the field being yet in its infancy. There is ample scope for profitable business by the development and sale of such properties, and even of portions of the property already acquired."

CARDIFF EXHIBITION, 1896.—The Metropolis of Wales is laying itself out for an exhibition on a large scale in 1896. As might be expected in a district so intimately connected with the coal and iron industries, the mining and engineering sections will be very prominent, if, indeed, they do not prove the chief feature of the event. Of course, maritime interests will be well represented, as would be natural at a port which stands first in the world for coal exports, and third in the world in the matter of other clearances. The shipments of coal, coke, and patent fuel from Cardiff in 1894 amounted 15,315,165 tons. Other sections of the exhibition will embrace the latest developments in electricity, in scientific instruments, &c.; whilst agriculture, horticulture, sports, and pastimes will not be overlooked, the latter probably including a water show on a big scale. Representative men of all classes have the affair in hand, as, for instance in the Mining Section the Chairman of the committee is Mr. Ithel Trehanne Rees, C.E. (of the firm of Messrs. Foster, Brown, and Rees, of Cardiff), and amongst the members are Sir William Thomas Lewis, Mr. Archibald Hood, Mr. F. L. Davis, Mr. A. J. Stevens (President of the South Wales Institute of Engineers), Professor Galloway, Mr. Forster Brown, Mr. Thomas Evans, Colonel James Williams, and Mr. W. Gascayne Dalziel (secretary of the South Wales and Monmouthshire Coalowners' Association) is secretary. Lord Windsor is President of the exhibition, Her Majesty the Queen patron, and the Prince of Wales will be asked to open the exhibition.

ROKKE'S ROODEPOORT.—In referring to the prospects of the above company, the prospectus of which is now before the public, the City editor of *Truth* says: "The property appears to be well situated. It is within easy distance of Johannesburg, and close to the Roodepoort station. The assays are stated to have yielded an average of 1 ounce 2 dwts. 2 grains of fine gold to the ton. The water-right seems a valuable one, as it is stated that it arises from a never-failing spring, one of the head waters of the Klip river." In concluding a favourable reference to the scheme, *South Africa* says: "The directorate is a strong one, and the capital the moderate one of £130,000. The shares will probably go quickly to a big premium." The *Financial Times* concludes a reference to the scheme by saying: "The company is introduced to the public under favourable auspices, and the applications for shares already received are sufficient in themselves to guarantee the success of the issue."

We understand that Mr. B. I. Barnato has taken Earl Spencer's town residence, No. 27, St. James's-place, and that will be his permanent address until the completion of his mansion in Park-lane.

The transfer-books of the WAIHL SILVERTON EXTENDED GOLD MINING COMPANY (LIMITED) will be closed from the 17th inst. to October 2 next, both days inclusive.

CORRESPONDENCE.

We wish it to be understood that we do not hold ourselves responsible for, and do not necessarily endorse, the opinions of correspondents. All communications must be accompanied by the names and addresses of the senders, though these need not necessarily be published.

CONSULTING ENGINEERS.

TO THE EDITOR OF "THE MINING JOURNAL."

SIR,—Your leading article on this question (August 24) has been read by myself, and no doubt by many others, with much interest. Your remarks generally are very pertinent, and much to the point, and from personal experience I can fully appreciate their tenor.

In years past I have written and said much on this special question and endeavoured to point out the absurdity of amateurs attempting to conduct gold mining operations except under the advice of experienced mining engineers. It is quite amusing, sometimes, to hear remarks, or comments, made by people on the prospectus of a gold mining company. The name of a nobleman or some lesser luminary, heads the list of directors, with probably several highly respectable members of society to fill up the list. Then comes the bankers, solicitors, and auditors, while the name of the most important person that should appear on the face of a prospectus is generally conspicuous by its absence, and that is the name of the "consulting engineer." The other names on the prospectus, while useful and ornamental, are the exponents of capital subscribed by shareholders, which, if spent injudiciously, might be all wasted. The consulting engineer with the manager at the mine are the ones who have to work the mine, and make it profitable, if possible. Therefore, the most important name on a gold mining prospectus should be that of the consulting engineer; it depends on his judgment and advice whether the mine is to become a profitable undertaking or a miserable failure, and a loss to shareholders.

If the directors—as they often do, and have done—refuse to be guided by the advice of their consulting engineer; if they have one in name, they will, in most cases, land themselves into trouble or difficulties and the shareholders into loss. By so doing they bring a legitimate industry into discredit; they neglect the proper development of the mine, waste the capital, and depreciate the value of the shares on the market.

During the several furcres in mining that have occurred during the past 15 years in India, the West Gold Coast of Africa, South Africa, some parts of Australia and America, there have been many instances of serious losses of immense sums of money that have been recklessly squandered by inexperienced directors and amateur mining authorities. In my work on "Our Gold Supply: Its Effects on Finance, Trade, Commerce, and Industry" (published in 1884), I have commented more fully on the question, and at p. 170 I state as follows:—"Our gold supply is dependent on gold mining as an industry which requires special knowledge and aptitude for the business." It appears that many gentlemen who take positions as directors of gold mines ignore the first principles of success which guide them in their own businesses or professions. What would he thought of the manufacturers of woollen or cotton goods who employed for their managers men who had been brought up to the iron trade? or the retail haberdasher or grocer who employed a drayman or cabdriver to manage their businesses? Would it be any wonder if they and their businesses came to grief? Then what else can be expected from defective management of gold mining but failure?

There are instances of companies which have gone in direct opposition to practical advice, apparently for no other reason, but because that advice did not suit their fancy, or interfered with the pet theory of some very clever director who was desirous of experimenting in gold mining at the expense of other people. Of course in most instances these mushroom authorities and the mining companies at whose expense they have been experimenting have come to grief, while the shareholders are left lamenting, to bewail their losses and denounce gold mining, instead of their own egregious folly that led them to place their faith and their money under the guidance of mining nonentities.

There are two distinct and separate methods of conducting mining operations:—(1) legitimate mining, which means working a mine to the best advantage for permanent profit and work; (2) illegitimate mining, which means working a mine for the purpose of market operations, or temporary profit to suit the purpose of interested parties who desire to raise or lower the price of shares at will."

In the first the consulting engineer is wanted, in the second he is not wanted. Working a mine for the market and booming the shares far beyond their value may last a little time, but generally ends in a fiasco as some notable instances of late testify, but who benefits by the transaction?

It often happens that while carrying out costly and progressive work that shareholders get impatient and lose heart, sacrificing their stock at ridiculous prices, when by a little more patient success would have been attained. Large mining undertakings with really good prospects take time to develop, and cannot be rushed into the dividend stage unless the operations happen to be fortunate in quickly getting into rich ore ground, but the best-paying mines, as a rule, are the moderate and low-grade ones where the mines are working steadily and consistently.

Millions of money have been frittered and fooled away by companies who have acted on the principle of carrying out their own ideas, or the fad of some member. It is the old story of the blind leading the blind, and both coming to grief. They start operations with a blunder and keep on blundering until the capital is exhausted and much time wasted; then the mine, which may have very excellent prospects, gets into bad odour through ignorant management and financial muddling, and then passes into oblivion.

I can give a case that occurred on the West (Gold) Coast of Africa in 1881. I went out there to examine and report on a gold mine which had been represented to be very rich. I reported that I thought the lode inspected and the stone I brought to London would average about 1 ounce per ton (the crushing by Johnson and Matthey gave 1 ounce 4 dwts.), and I considered the mine could be made to pay if properly opened up and developed in a systematic manner. The directors and promoter wished me to advise the erection of a 100 stamp mill before the shaft had been reached or opened out, and the lodes only proved to a depth of 50 feet. I told the directors at a board meeting that I could not put a 20 stamp mill at work until the mine was opened, much less 100 head of stamps. And I thought as directors it was their duty to the company to be guided by my advice, and not for them to advise me. Of course had I been foolish enough to advise the erection of a 100 stamp mill, a great rash would have been made on the shares by those who wanted to make use of me to benefit themselves. I declined to be made a tool of, and the directors went their own way, wasted years of time, and squandered uselessly all their capital; the company ended in liquidation, bringing discredit to gold mining on the West Coast, and disgrace to the directors who brought the company to grief. The same policy occurred with several other companies started

to work mines on the Gold Coast at and after that time. The amateur engineers and directors who all thought they could run a gold mine brought themselves and their mines into a mess, and then denounced gold mining instead of themselves. Numerous other cases I could mention, and one specially flagrant case I shall probably have to bring to light, as it is high time a stop was put to the pretensions of these mining and financial muddlers.—Yours, &c.,
THOMAS CORNISH,
Consulting Mining Engineer.
54, New Broad Street, E.C.

THE HODGKINSON GOLD FIELDS.

TO THE EDITOR OF "THE MINING JOURNAL."

DEAR SIR,—In your issue of September 7 I was very pleased to see the name of the Hodgkinson Gold Fields, accompanied by returns of gold produced for the months of March and June. Some four years since I had the pleasure of making an inspection of these fields for some German and French people. A copy of my report I also sent to some London capitalists, but I do not know if these gentlemen have made a move there as yet; but I must state that, in my opinion, these fields would prove to be a profitable investment to any company.

When I paid a visit to these mines no deep mining had actually been done, the deepest being on what was known then by the name of the Black Ball claim. The shaft on this property was only about 400 feet deep and was being worked on tribute by a Mr. Boulds. Some of the stones then being raised would pan several ounces per ton. I was informed that no large amount of outside capital was brought on this field, the work chiefly being done by prospectors, who, as would naturally be the case, worked out the best parts only of the reefs above water level. The quartz reefs are large in some instances and well defined, and can be traced on their strike for miles without scarcely any interruption. The country rock is a moderate dark clay slate, not of a very hard nature, but one that any miner would be pleased with.

During my visit a parcel of stone was being crushed at the Vulcan mill (this is situated under the town-ship of Kingsborough). This was taken from the Vulcan claim, and was expected to crush something over 1 ounce per ton, and I considered this not far off the mark. This, it must be borne in mind, was only the free gold the stone contained. Beside this the stone contained about 5 per cent. of pyrites. Samples of this I took away with me, which gave on assay over 22 ounces of gold per ton of muck. Several tons of these tailings or concentrates had been allowed to accumulate around the mill-dam with the intention of treating them at some future time, but I heard, some while after my visit, that an exceptional flood had occurred and washed away the dam and concentrates. Now, with the present chemical treatment of this class of gold ores it would have left, after treatment, splendid profits. I have great belief in the field, and hope, ere long, to see it in full working order.—Yours truly,
C. S. R.
September 10.

COMPANY FINANCE.

Reports, Balance Sheets, Dividends, &c., of Mining and other Companies.

Murchison New Chum Gold Mines.

The secretary has sent the following circular letter to the shareholders:—"I am directed to convey the following information to shareholders:—The estimated profit of £14,000 to May 31, referred to in the prospectus, has been verified, and the production of gold from the mine since that date, with a 10 stamp battery, has been as follows:—To middle of July, 1130 ounces; to middle of August, 1128 ounces; making a total production of 7147 ounces since the beginning of this year. A further crushing is now due. Out of the net profits earned to date the adjoining North Chum leases have been purchased for £15,500. The working capital of £15,000, which was provided under the prospectus remains intact. The manager reports under date July 6:—Main shaft. The present depth is 226 feet. The reef was cut at 205 feet, exposing 2 feet 6 inches of stone, which gave a mill test of 5 ounces 13 dwts. It is my intention to open out another level at 250 feet Stopes 140 feet level. The south stope is yielding very rich stone, but I shall only use this for mixing with lower grade ores. North stope is not looking so well, the ore being of a much poorer class, yielding very little milling stone. North Chum, south shaft (former lease) has been sunk to a depth of 150 feet, and a drive put in 13 feet south to boundary, and connected with the 140 feet level of New Chum. This shaft has been sunk on the lode the whole distance, and has exposed some fairly good milling stone; average width, 2 feet 6 inches. North shaft has been sunk 121 feet, and shows good milling stone from top to bottom. A drive has also been put in on the lode at 80 feet, and connected with the south shaft. The reef is big and strong all along this drive, and the milling ore averages 3 feet 6 inches in width. This ore, although not so valuable as the New Chum, will give a fair milling result.—General. There are about 3000 tons of highly payable ore opened up at present in the New Chum and North Mines, independent of all ore below the 140 feet level. The machinery and plant is all in good working order. I shall do my utmost to get the main shaft down 500 feet in as little time as possible, also to get the mines properly opened up. On July 12 he briefly states:—"I shall start to-morrow morning on New Chum North stope. I shall not clean up again until the 15th of next month. I could get much larger returns, but until I know the value of the North stope I shall endeavour to keep the returns at about 1000 ounces per month." And on July 22:—"Main shaft has been sunk 15 feet for fortnight, making total depth from surface 247 feet. South shaft 140 feet level has been yielding the usual quantity of rich ore. North Chum: The north shaft has been sunk 13 feet; reef looking well, and showing fairly good gold. The intermediate drive has been timbered between north and south shafts (distance 75 feet), and all preparations made for stoping.—Old Chum Lease. The mill has been running full time since the 13th on north ore, and has crushed 140 tons to date. I hope to get through about 450 tons before washing up on August 15, and I expect a return of 1000 ounces at least. Although I am experiencing difficulties at present, and getting on slowly with the development work (owing to heavy water), I can see my way clear to keep up the returns. The material for fixing up new pump has not arrived yet. I shall not stop to put pump in until I get the 250 feet level well opened out unless compelled to. From what I saw of the lode where cut in the main shaft, I think the 250 feet level will be better than anything yet found. It appears from the above that the yield of 1123 ounces announced on August 13 consisted mainly of lower-grade ore from the North Chum block acquired since the formation of the company."

Bank of Africa.

The following is the report of the directors to be presented at the 26th ordinary general meeting:—The directors submit the

report and balance-sheet for the half-year ended June 30 last. After providing for bad and doubtful debts the net profits amount to £28,056 0s. 3d.; add balance from December 31, 1894, £6061 16s. 10d.; total, £34,117 17s. 1d., which it is proposed to apply as follows:—Dividend of 6s. 3d. per share (being at the rate of 10 per cent. per annum), free of income tax, £12,500; bonus of 1s. 3d. per share (being at the rate of 2 per cent. per annum), free of income tax, £2500; transfer to reserve fund, £7500; contribution to pension fund, £5000; balance to next account, £8617 17s. 1d.; total, £34,117 17s. 1d. The directors recommend a contribution of £5000 to the pension fund for the benefit of the officers, no addition having been made to the fund since March, 1890. A branch of the bank has been opened at Bulawayo, Matabeleland. The directors have appointed Mr. J. Rochfort Maguire to a seat at the board. The increased volume of business offering in South Africa and the largely extended field for banking operations there, make it necessary to add to the resources of the bank, and accordingly a resolution will be proposed at the meeting authorising the increase of the capital by 44,000 additional shares. It is proposed to offer 40,000 of these shares for subscription to the holders of the existing shares, in the proportion of one new share for each existing share held by them, the new shares to be offered at a premium, the amount of which will be added to the reserve fund. Arrangements have been made by the bank with responsible parties for placing such part of the 40,000 shares as may not be taken up. Arrangements have also been made with the same parties, by which the remaining 4000 shares will be issued to them at the same price as that at which the 40,000 will be offered to the shareholders.

The Wassau (Gold Coast) Mining Company.

The following circular has been issued to the shareholders:—"The produce of the mine for the month of July last (referred to in our circular of the 17th ult.), realized £1392 16s. 2d. Ten stamp battery worked 12 days 19 hours, and crushed 283½ tons, producing 357½ ounces standard, giving a yield of nearly 1 ounce 5 dwts. per ton. Cablegram has since been received advising the remittance for the first half of August as 170 ounces bullion, as against 153 ounces for the same period in July. Mr. Edward H. Bayldon, a shareholder who has taken great interest in the welfare of the company, has been elected a director in the place of the late Mr. F. J. Crocker. The board have decided to issue 100 debentures of £100 each at par, bearing interest at 6 per cent. per annum, payable in three years and redeemable at £105, to enable them to liquidate Messrs. Swanzy's account, and to provide more capital for development and erection of cyanide plant. Messrs. Swanzy are willing to take up the whole of the debentures, but the shareholders will be given the first refusal, with due notice and full particulars. The latest advices from the mines are very encouraging. The lode in the Adjah Bippo property is improving in width and quality. The manager is proceeding rapidly with the development of Cinnamon Bippo, and has great hopes, ere long, of being able to fulfil his promise to increase the returns to 1000 ounces per month. Two tunnels are being driven on this new property, one has already tapped the lode, and it is anticipated that the line of railway—proceeding *pari passu*—will be ready to convey the ore that will have been won to the mill. The company possess a valuable property in the tailings, which are estimated at from 30,000 to 40,000 tons."

Lilloet, Fraser River and Cariboo Gold Fields (Limited).

The following circular has been issued to the shareholders:—"The directors having, in pursuance of the powers vested in them for carrying out the objects of the company, secured throughout the Province of British Columbia many mines, mining rights and claims, and having selected from them six properties as the most promising, which have, by extensive works, shafts, tunnels, &c., and repeated and elaborate assays, been proved to contain gold in large quantities and to be of great value, they are of opinion that the time has arrived for the company to alter its operations from those of a prospecting and exploration syndicate to those of a large development company. For the purpose of doing this it will be necessary to largely increase the capital and strengthen the executive of the company. With a view to securing expeditiously a portion—viz., £200,000, of the additional capital which it is proposed to create, the company's brokers in London and Paris have organized a syndicate, in which they themselves and the directors have taken a considerable share, and which will be managed by the company's Paris broker (the senior member of whose firm is proposed as one of the additional directors), to guarantee the subscription of half the new issue—viz., £100,000—if it should not be subscribed forthwith by the present shareholders or warrant-holders, on condition of the syndicate having the option for one year to take at par the remainder of the new issue. You will observe that it is not proposed to issue at present £50,000 of the new capital. This the directors deem it wise to retain in the company's treasury for the purpose, if necessary, of issuing the same as fully-paid shares in payment of any further properties it may be thought advisable to acquire. I therefore beg to enclose a notice of an extraordinary general meeting to be held for the purpose of passing the necessary resolutions for carrying out the above objects. I also send you a form of proxy which I shall be glad if you will return, duly signed, if you are unable to attend the meeting. Any holder of a share warrant who desires to attend and vote at the meeting must deposit the warrant relating to the shares in respect of which he proposes to vote and act, with the secretary at the registered office of the company, on or before the 16th inst., at 12 o'clock noon, and obtain the necessary voting certificate."

Langlaagte Block "B" Gold Mining Company.

The following particulars of the rich strike on the Block "B" Company's property, have been received by the last mail, and the assays are as follows:—

No.	Width of reef.	First assay.	Second assay.	Where from.
	ft. in.	oz. dwts. gr.	oz. dwts. gr.	
1	3 6	2 18 8	2 17 12	Main reef east seventh level.
2	4 6	1 7 17	1 6 6	Main reef west seventh level.
3	0 6	7 12 9	7 11 16	South reef lead on east sixth level.
4	0 6	4 1 16	4 0 5	ditto ditto.
5	4 6	1 13 13	1 13 13	South reef sixth level.
6	5 0	— 14 14	— 14 14	Main reef east sixth level.

The supervising director writes that the strike at the sixth level is really grand, and that he is sending by this mail some samples which show visible gold all over the rock. Some of the assays made show about 50 ounces to the ton, and the main reef at this level shows about 10 dwts. The main reef at this level is 8 feet wide, and the width of the south reef from which the assays are taken is indicated above. Now that the new compressor plant with very powerful drills is at work, these rich reefs are being opened up, and the directors intend to erect another 60 stamps in addition to the 80 stamps now at work.

—We are informed that Mr. S. D. Grant and Mr. Jules de Méray have joined the board of the ALPHEA RIVER SYNDICATE (LIMITED).

The Isle of Man Mining Company.

The 42nd annual report of the directors of the Isle of Man Mining Company (Limited), just issued, stated that the result of the past year's working had been more satisfactory than for some years past. The richer quality of the ore raised, and the continued improvement in the value of lead and silver, had resulted in an average advance of £1 3s. per ton in the price obtained for the ore raised during the year. The ore raisings had been 4700 tons, the same as last year, and the profit was £10,109 14s. 2d., as against £4777 1s. 11d. in the previous year. A sum of £1000 had been carried to the reserve fund for the redemption of bond debt; £1200 to new works account, and £640 9s. 2d. to the property account. The directors recommended that a dividend at a rate of 8 per cent. per annum on the ordinary share capital of the company (of which 5 per cent. had already been paid in anticipation), be declared, and that a dividend at the same rate on the preference capital (of which one-half year at the rate of 7½ per cent. had already been paid), be also declared. A difficult and important piece of work in the form of the renewal of the upper part of Bawden's engine shaft, which was found to be in a very bad condition, had been successfully carried out by Captain Kitto during the past few months, and nearly the whole of the cost had been brought into the accounts to June 30. The retiring directors are Messrs. Frederick North and E. H. Perrin, who are eligible for re-election. The captain of the mine, Mr. W. H. Kitto, in his report to the directors, states that the mine was in an efficient state, and regarding their future prospects, although the bottom level west had not so far opened out as much ore as anticipated, rather unexpected improvement in the value of the lode gone through in the east level at the same depth would fully compensate, so that their present position was not less satisfactory than it had been for some years past. The statement of accounts showed that 4550 tons of lead ore sold realised a sum of £37,887 10s.

Durban-Roodepoort Gold Mining Company.

We are informed that the following resolutions have been passed by the directors:—"That an interim dividend of 3s. per share (15 per cent.), free of income tax, be and is hereby declared payable at the Bank of Africa (Limited), 113, Cannon Street, E.C., on Saturday, September 28, to the shareholders registered in the books of the company on Wednesday, September 18, and to holders of share warrants to bearer. "That the transfer books of the company shall be closed from Wednesday, September 18, to Tuesday, September 24, both days inclusive."

Note.—Holders of Share Warrants to Bearer will receive payment of the dividend upon presenting coupon No. 25 at the Bank of Africa (Limited), London and Johannesburg; and at the office of the Compagnie Française de Mines d'Or et d'Exploitation, 20, Rue Taitbout, Paris. The Talons to be exchanged for a fresh set of coupons must be handed in, and a receipt for same obtained, at the offices of the company; or the offices of the Compagnie Française de Mines d'Or et d'Exploitation (as above). The new coupon sheets will be ready by about October 19 next.

Paarl Central Gold Mining and Exploration Company.

The following circular has been issued to the shareholders:—"I beg to advise you that a special general meeting of shareholders has been convened, to be held at Johannesburg, South African Republic, on Wednesday, November 13, for the purpose of considering and confirming, or otherwise, a provisional agreement entered into by the directors, for the acquisition of 27 "dip" claims from the Rand Mines (Limited) the consideration to be 160,000 shares in the capital of this company. And further, if the above purchase is decided upon, resolutions will be submitted whereby the present capital of the company will be increased from £200,000 to £400,000; the 200,000 new shares so created to be apportioned as follows:—To the Rand Mines (Limited) for 27 claims, as mentioned above, 160,000 shares; for additional working capital to be offered to shareholders of the company, *pro rata* to their holdings, at 35s. per share, the whole issue being guaranteed by the Rand Mines (Limited). 40,000 shares; total 200,000 shares. The transfer register will be closed from September 28 to October 19, both days inclusive."

"The Jumpers" Gold Mining Company.

The following is from the summary of operations for the month of July: Profit for month, £7931 16s. 8d.; Total receipts and expenditure for month:—To cost, mining and milling, £11,036 4s. 9d.; cyaniding, £895 15s. 5d.; plant account, &c., £1134 8s. 7d.; mine development, £2651 1s. 7d.; buildings, &c., £540 3s. 7d.; balance, £6343 17s. 11d.; £22,601 11s. 10d.; by gold, concentrates, and tailings, £22,601 11s. 10d. Driven and sunk during month, 805½ feet.

West Australian Gold Concessions.

The directors have declared a quarterly interim dividend at the rate of 40 per cent. per annum free of income tax for the quarter ending July 31. Dividend warrants will be posted on September 24.

THE TRANSVAAL EXPLORING COMPANY (LIMITED) give notice that arrangements are in progress, whereby all shareholders in the Transvaal Exploring Company (Limited) and the Transvaal Lands Company (Limited), who are registered upon the books of those companies on the 16th inst., will be entitled to subscribe at par for one £1 share in the Lydenburg Minerals Exploring Company (Limited) in respect of each ten shares held by them respectively in the first-named companies.

COMPANIES AND LEGAL ANNOUNCEMENTS.

*. Advertisements are inserted in this column at the rate of 9d. per line with a minimum charge of 7s. 6d.

THE WEST AUSTRALIAN GOLD CONCESSIONS (LIMITED).

NOTICE IS HEREBY GIVEN, that the Directors have declared a FOURTH QUARTERLY INTERIM DIVIDEND at the rate of 40 per cent. per annum, free of Income Tax, for the three months ending 31st July, 1895.

Dividend Warrants will be posted on September 24th inst. The Transfer Books of the Company will be closed from September 21 to September 24, both days inclusive.

By Order,

ALFRED AYLARD, Secretary.

33, Old Broad Street, London, E.C., 10th September, 1895.

THE WEST AUSTRALIAN GOLD CONCESSIONS (LIMITED).

NOTICE TO HOLDERS OF SHARE WARRANTS TO BEARER. FOURTH QUARTERLY INTERIM DIVIDEND at the rate of 40 per cent. per annum, free of Income Tax, for the three months ending 31st July, 1895.

NOTICE IS HEREBY GIVEN to Holders of Share Warrants to Bearer, that SHARE COUPON No. 4 of both Preference and Ordinary Shares will be paid on and after the 24th inst. at the offices of the Company, 33, Old Broad Street, London, E.C., or at the Company's Paris Offices, 1, Rue St. George's.

Coupons must be left at the Offices of the Company, or at the Paris Offices, two clear days for examination.

By Order,

ALFRED AYLARD, Secretary.

33, Old Broad Street, London, E.C., 10th September, 1895.

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*Mexican	Sept. 17	Sept. 21	Sept. 21	Sept. 28
*Gaul (twinscrew)	Sept. 24	Sept. 28	Sept. 28	Oct. 5
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Hoslin Castle (via Madeira) ...	Oct. 4	Oct. 5
*Dunne Castle (via Canaries) ...	Oct. 11	Oct. 12

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LONDON: SEPTEMBER 14, 1895.

BRITISH GUIANA'S GOLD MINING INDUSTRY.

OF late we have written so frequently upon the gold mining
 industry of British Guiana, that some apology is almost
 due from us for once more drawing attention to it. As,
 however, we have received a copy of the report drawn up by Mr.
 T. S. HARGREAVES, F.G.S., Secretary to the Council of the
 Institute of Mines and Forests, we cannot place it upon one
 side without commenting upon it in however brief a manner.
 British Guiana is a country which, during recent months, has
 come rapidly to the front. It appears to be now quite univer-
 sally accepted that it is a country of which we shall hear a great
 deal in the future—a country of whose mineral resources we,
 as yet, have no adequate knowledge, and a country, therefore,
 which is destined to add materially to the output of the world's
 gold. Apart from this, however, it is questionable whether
 we should have heard so much about it had the depression
 which overtook the gold mining industry only two or three
 years ago still continued. Now that the industry seems to be
 in a prosperous condition in nearly every quarter of the globe,
 it is due to this, no doubt, that British Guiana has come to the
 front along with the general tide of prosperity. As

we have stated on more than one occasion, it was only
 a short time ago that very few believed in its richness. Now it
 is a rare thing to find anyone who doubts it. Implicit belief in
 its gold wealth, however, cannot be said to be strongly supported
 by the report before us. During the year, from July 1, 1894, to
 June 30, 1895, the total production of gold throughout the
 whole colony was only 128,760 ounces. It was during this period
 that the colony began to make itself known, and this appears all
 the more strange when we find that the output showed a con-
 siderable decrease upon the production of the two years previous
 —in fact, ever since 1892 it has shown no increase. For that
 year up to June 30, 1893, the output was 138,279 ounces; whilst
 from July 1 of the latter year up to the end of June of the fol-
 lowing year it slightly declined to 137,822 ounces. Mr. HAR-
 GREAVES, of course, takes upon himself to give some explanation
 of this diminution, and these explanations we must accept as
 plausible and comprehensible. Nevertheless, we cannot consider
 that they are all-sufficient. "It [the diminution] is not sur-
 prising," he remarks, "when it is remembered that nearly all the
 gold shipped is obtained from alluvial workings, and that a large
 amount of capital was in 1893 and 1894 withdrawn from placer
 mining, and invested in mining proper, and that although
 quartz mining at present holds out a brilliant prospect
 for the future of the colony, it has not yet been
 sufficiently developed to add materially to the production." Another reason—and this is as significant as any—is the fact
 that during the last two years there have been fewer labourers
 employed. It is also true that in the past, for some extraordinary
 reason, great hostility has been displayed against the gold
 mining industry of the colony, but thanks to the persistent efforts
 of the supporters of the industry, this opposition has been steadily
 combated, and this unfriendliness, which has, no doubt, greatly
 retarded progress, is gradually dying a hard death. Still, how-
 ever, it exists, and until it finally disappears, we cannot hope for
 any rapid progress. As a matter of fact, however, great and
 varied difficulties exist, and it was to enquire into these that in
 November of last year a Commission was appointed. After deal-
 ing with a large mass of evidence the Commissioners came to the
 following conclusion:—"That the gold industry is not on a satis-
 factory basis, owing to the unsatisfactory character of the regula-
 tions; the insufficiency of the staff of the Department of Mines; the
 natural difficulties of getting into the interior, the prevalence
 of gold stealing, and the obstructive nature of the bateaux
 regulations." In order to remove these difficulties, and to place
 the gold mining industry on a satisfactory and permanent basis,
 they proposed new regulations, which, we hope, will be duly
 considered and carried into effect. Everyone who has even the
 slightest knowledge of the country agrees that it is absolutely
 necessary to carry these suggestions into effect, and Mr. HAR-
 GREAVES, himself, has no doubt that when they are adopted it
 will be the means of increasing very largely the output of gold
 throughout all the districts. The following figures, showing
 the productions of the various districts during the last three
 years are interesting:—

	1892-3.	1893-4.	1894-5.
Barima	28,656	26,675	29,544
Barama	4,847	5,339	3,706
Groote Creek	216	120	203
Cuyuni	24,215	26,492	29,284
Mazaruni	9,380	6,720	3,753
Puruni	2,268	2,861	5,063
Essequibo	43,454	44,006	30,758
Potaro	25,157	25,592	25,820
Demerara	85	12	625

From the above table it will be noted that the Essequibo dis-
 trict is by far the largest producer, and is consequently the
 richest district, but it will be noticed at the same time that the
 production during 1894-5 fell to a considerable and remarkable
 extent. This fact Mr. HARGREAVES emphasises as a "lamentable
 instance of the evil wrought by delay in carrying out the neces-
 sary schemes for facilitating communication." The chief cause,
 however, for the falling-off, he remarks, is due to the great ex-
 pense and hardship incurred in prospecting in the Connoorook
 district. So far, however, from this district being exhausted,
 there are large areas which have never been prospected. Another
 drawback is the fact that it is almost impossible to take an ex-
 pedition with any reasonable chance of success at an expenditure
 less than \$1000, the mere cost of getting up to the district by
 boat absorbing a large amount of money. These are drawbacks
 which can easily be remedied if the Government will only display
 a little wisdom and energy in removing them. Next to Esse-
 quibo comes Barima, which has shown an encouraging increase.
 Third on the list is Cuyuni, which also shows an improvement.
 The Potaro district is, however, not far behind. It will be seen
 that the yield of this district has increased gradually
 year by year, and Mr. HARGREAVES has but little doubt
 that with the increased facilities afforded by improved transport
 this district will soon treble its production. The official figures,
 which we have published since this report was printed, show
 that during July Cuyuni, with an output of nearly 2500 ounces,
 takes the first place, Essequibo coming second with nearly
 2140 ounces. The first three weeks of August, however, Barima
 takes the lead with 1500 ounces, followed, respectively, by
 Potaro (1420 ounces), Cuyuni (1285 ounces), and Essequibo
 (1115 ounces). During the first eight months of this year the
 output for the whole of the colony has been, on an average, a
 little over 10,000 ounces. There is no doubt whatever that
 British Guiana is an extremely rich country. This is now uni-
 versally admitted. There seems no present indication, however,
 that it will startle us in the near future. There is a great deal
 to be done, many grievous difficulties and obstacles to overcome,
 of a nature, too, that demands exceptional energy and inter-
 prise. Much depends, therefore, upon those in whose hands
 the Government of the colony is entrusted. They have a great
 work to perform, and we have yet to prove whether they have
 the ability for it. There is one obstacle, however—and
 we reiterate this in spite of the ridicule with

which it is received on the other side — which no human foresight can overcome, though it can to some extent minimise it, and that is the climate. Nevertheless, we know that if this be the only obstacle, man in his greed for wealth will make little of it, and, therefore, it need not necessarily be, if it alone existed, an insurmountable drawback to the progress and the prosperity of the industry.

We have had an opportunity during the week of examining a very fine gold nugget received by Messrs. PILEY and ABELL, of 27, Old Broad-street, E.C., for realisation on behalf of the British Guiana Bank. It weighs 81½ ounces troy, and is worth about £4 per ounce. It was noticeable that the nugget was slightly water-worn and highly crystalline. From these indications, and from the size of the nugget, therefore, it is probable that it has not travelled very far from its original matrix, so that the inference is that the fortunate workers are quite likely to discover others in the same locality, though it does not follow that they would be as fine or as large as this.

SCIENTIFIC PROGRESS AND THE BRITISH ASSOCIATION.

THE British Association has been holding its 65th annual meeting at Ipswich. The address of the President, Sir DOUGLAS GALTON—portions of which we reproduce elsewhere—was not so exhilarating or exciting as former addresses have been. He simply contented himself with a passing review of the progress of science since the foundation of the Association in 1831. This, of course, has its value from many points of view, as it enables one to gain in a concise form some conception of what has really been done during these 65 years. But no doubt the majority would have welcomed a more inspiring address—one, for instance, similar to that delivered by Lord SALISBURY last year. As respects scientific attainments, humanity stands upon a higher eminence than it has ever occupied before. The blessings which the progress of science have conferred upon us are wonderful and bewildering, and we can certainly congratulate ourselves on being born in an age where we are surrounded by everything that conduces to our happiness and well-being. We become more practical and less poetical every day, and though this may deprive us of many of the pleasures and delights of pure imaginative art, nevertheless, we are too well off to think of them. Although the ancient Greeks and Romans were not so blest, scientifically, as we, still they attained a very high state of civilisation, and probably from a purely intellectual point of view were superior to ourselves. Nevertheless, we are not disposed to envy them, for though we may not inherit the qualities which enable us to keenly delight in superior intellectual pursuits, nevertheless our lesser gifts enable us to more highly appreciate and enjoy the more insipid fruits of science. It is significant that in the present age we have no great poet, no great painter, no great philosopher, and no great musician; but we certainly possess men who have attained greater eminence in science than the world has ever seen. Ever since the first gleam of intelligence penetrated into the dark mind of man, and enabled him to invent things conducive to his comfort and his well-being, science has steadily progressed; but we can assert without fear of contradiction that at no period of the world's history has it made so rapid and wonderful progress as during the last 60 years. To enumerate the victories which it has won in every department would need great space for adequate treatment. Sir DOUGLAS GALTON, in his address on Wednesday, to a considerable extent accomplished this. It is to the proceedings of the annual meeting of the British Association that smatterers in science are accustomed to look for an epitome of the doings of the previous twelve months. They are also accustomed to regard the British Association as the inventive genius, and as the society which does the real work. This is far from being the truth. It is to the patient, solitary and humble workers that we owe the progress that has been made. The British Association, as any other institution may do, simply gains its knowledge from what these men have done. As a matter of fact, it does not assist science to the extent it could do. During the whole time of its existence it has devoted £80,000 to assist research, but when spent over so long a period, it amounts, after all, to but little. There is one aspect of science, however, which it treats from too narrow a point of view, and that is the phase of it relating to mining and metallurgy, especially with regard to the treatment of the rarer metals. We seek in vain from the President's address any idea or any information of what has been done during the period of which he treated. As a matter of fact, the results attained in these have required as much intellect, and as much research and patience, and are calculated to do as much for the welfare of mankind as the achievements in most of the other branches. During the last few years problems have been solved which for ages defied the intellect of the greatest men, but there are still many more as difficult problems to attack and to conquer. Every year produces results which are simply wonderful, and which are so far ahead of the accomplishments of the previous twelve months that the discoveries during that period are regarded as ancient history. We should certainly like to see more attention paid by the British Association to this branch of science. Perhaps some day we shall see our wish realised, for there is every indication that gold and silver mining are claiming more and more the attention of mankind. The latter are getting to see the importance of this; and not only the importance, but the profound interest and pleasure to be derived from the pursuits of them. Mining and metallurgical science has entered on an era which not so very long ago was unimagined. It has a glorious future awaiting it, and there are many joys and rewards in store for those who are actively employed in attacking the problems which are daily presenting themselves.

THE IMPROVEMENT IN TRADE.

THE Board of Trade returns for August are the most cheerful and encouraging that we have received for a very long time. The evidence which they furnish proves that trade is distinctly on the mend. This is, perhaps, more pleasing, as the returns for July foreshadowed but slightly the remarkable improvement that was to take place in so short a time. Trade and every phase of commerce is, at the present moment, therefore, in a most hopeful state of prosperity. It is strange that this improvement should be co-temporaneous with the return of a Conservative Government; and at the first blush, and to the superficial mind, it certainly seems to support the oft-expressed opinion that a Conservative Government augurs well for trade generally. Of course, it is ridiculous to say that this is the cause of the great improvement that has taken place. It would have come had any other Government been in power. All that can be said, however, is, that the Conservatives are, as usual, greatly fortunate. They took possession of office when the revenue was overflowing, when exports were increasing, when money was unusually plentiful, and when we were at peace with all the world. The result of all this has naturally been elasticity of spirit, and this is likely to continue for some time. Now that the tide of general prosperity is rising, new enterprises will, no doubt, be started, and new companies formed and new experiences realised.

Coming to the figures, there is an increase of £1,900,000, or 10·2 per cent. in exports; and of £2,972,000, or 9·7 per cent. in imports, whilst the trans-shipment trade has improved to the extent of £1,082,000, or as much as 20 per cent. This gives an increase in the exports for the eight months of £3,295,000, or 2·2 per cent.; whilst the decline in imports has been reduced to £1,039,000, or 37 per cent. It is a most favourable feature of the returns that the advances recorded are spread over the whole schedule of imports and exports, with one or two unimportant declines, from which it may be inferred that the revival is not due to exceptional activity in one department of industry, or from an exceptional demand from one or two countries; but that it rests upon a broader and more durable basis. In this connection it is interesting to note that according to the Johannesburg papers, trade out there has also been exceptionally good, amounting to almost a boom. Building materials of all kinds continue to take the lead, and merchants dealing in these need to congratulate themselves upon the mania at present exhibited for building. At no time in the history of Johannesburg has there been such a demand for ground and houses. The demand for a good class of machinery has been unabated, and in some instances exceeded the immediate supply. Hardware manufacturers were somewhat chary about giving details of the briskness in that department of trade, since there was naturally no desire to invite further competition. A large business has been done in good second-hand machinery, which has been disposed of at fair prices. Somewhat of a demand has set in for winding engines and second-hand boilers, and the amounts realised were satisfactory to sellers and purchasers alike. With the rapid development of the Deep Levels, and the increasing demand for labour, and the enlargement of works, there seems but a remote possibility of the activity in the machinery market diminishing. It is reported that prices are firm in most lines, and there is every indication that the volume of business will be maintained. The principal feature of the local trade, however, apart from the boom in building materials, is the demand from the mines for every description of iron, steel, and timber goods, all of which are eagerly snapped up as they arrive.

NOTES AND COMMENTS.

IT is a very great pity that the shareholders in the Wolverhampton Gold Mines have not supported Mr. Sisterson and his co-directors in a more unanimous and grateful manner than they have done. Of course, in these days when the great object is to acquire wealth in the easiest manner possible, and without any regard to ways and means, it is a delicate task to preach a sermon to investors on gratitude. To Mr. Sisterson and those who have worked along with him, the shareholders owe a great deal, but evidently it is far from their intentions to discharge their moral obligations. It is well-known that the Wolverhampton Gold Mines is a reconstruction of the unhappy Notre Dame des Victoires, against the directors of which, owing to their alleged mismanagement, Mr. Sisterson and his colleagues waged a successful campaign. He himself is a thorough believer in the value of the property, and throughout his connection with the company he has worked in a manner almost too straightforward and honourable to be true. Now, however, through circumstances over which he has been unable to exercise any control, he is compelled to hand over the management to a well-known influential South African firm, who are advancing the capital which is absolutely necessary to bring the company to success. Messrs. Lewis and Marks, the gentlemen in question, must have a high opinion of the property, or else they would not be so willing to advance all this money. The large shareholders in the company are unanimously in favour of the scheme which was adopted at Tuesday's meeting. Of course, all this does not guarantee that the company, whose past career has been one of failure, will yet be one of great success. At any rate, all that can at present be said is that the only course to ensure this is now being taken, and it is to be hoped that it will prove the right and the sure one.

MR. ALBERT F. CALVERT delivered, as Chairman of the company, an encouraging speech at the statutory meeting of the North-West Australian Gold Fields (Limited). Of course, in so short a period of the company's existence, he was unable to bring forward evidence of any great amount of practical work accomplished, but he distinctly showed that during the short

time they had been in office the directors had not let the grass grow under their feet. By this time everyone is cognisant of the opinion of Mr. Calvert respecting the whole of the West Australian colony in general, and of the North-West division in particular. The company at whose meeting he presided was registered on May 14 last, with a capital of £250,000, the whole of which was privately subscribed. The properties which it possesses are situated at Talga Talga, a field which, in Mr. Calvert's opinion, is richer than either Bamboo Creek or Marble Bar. One of the most pleasing items in Mr. Calvert's speech was the fact that latest information from the property stated that the ore was improving in quality, and that the work of driving the tunnel is progressing in a satisfactory manner. Then, again, since the registration of the company, two additional properties, 18 acres in extent, have been transferred to the company as a kind of present. Therefore, if it be not imprudent to judge too early from present indications, the shareholders seem to be in for a good thing. It is Mr. Calvert's intention to visit Australia next month, when he will inspect a large number of properties on behalf of the company.

ONE natural consequence of the mining boom now raging, and of the excessive amount of business which brokers have on hand, is the contempt with which the small investor is regarded. The person holding but a small number of shares has the greatest difficulty, if he so wishes, of disposing of them. He cannot find any firm of brokers who will undertake so small a commission. A characteristic letter complaining of this difficulty has been written by a correspondent, and published in one of the leading evening papers. This gentleman was possessed of 30 shares in the Croesus South United Mining Company, of which he wished to dispose. He wrote to a well-known man dealing in West Australian shares, but got a polite negative. He then wrote to the secretary of the committee, and received a similar answer. Of course, we cannot blame anyone for refusing to undertake these small commissions, but we can use our influence by bringing the matter before the Committee of the Stock Exchange, and politely ask them if they cannot see their way to adopt some means to protect and assist the small investor. They may regard it as a matter of no public importance, but we can assure them that it is, and that they would find it to their interest to take this simple matter in hand. If they refuse to do so they may be assured that a day of reckoning will come.

Is the climate of the Gold Coast Colony, West Africa, deadly? This is a question which has been asked over and over again, but one to which no definite or reassuring answer has been given. During the last week a controversy has taken place in one of the leading London dailies upon this all-important question, and, as is natural, the opinions have been amusingly contradictory. After all, is it possible to give a decided answer? The question, like many others of a similar nature, is purely relative. It all depends upon the constitution of the individual. For instance, to one man it may be comparatively healthy, and he may be able to make a long stay there without any serious injury to his health. Another, on the other hand, may be dead in a few months, or even a few weeks. But it is undoubtedly safe to say that no one has a constitution sufficiently robust enough to withstand the climate for a great number of years. For instance, there is an amusing story about a late Governor, who surprised the authorities at home by claiming a pension due to him for staying there a requisite period of years (and we believe he is the only one who has lived there long enough to claim the pension), and when he made the claim the authorities were somewhat in a fix as to the amount that was due to him. But whether the climate be deadly or not, the gold and other resources of the colony are quite sufficient in themselves to attract the ambitious and enterprising adventurer. Opinions, however, seem to differ as much regarding its gold wealth as its climate. Some who have visited the country tell us that the gold is not only small in quantity but bad in quality, whilst others go to the other extreme and say that the country is exceedingly rich in both alluvial and reef gold, and that it is of unusual purity. Of one thing we may be assured, which is that at the present moment it is unlikely to prove very attractive. There are enough countries already claiming attention.

A LARGE section of the celebrated Lake Superior iron ore region is temporarily stopped, so far as production is concerned, by a labour dispute which may have a considerable effect upon the English mining market. Information received this week permits of the statement that the men engaged in the ore mines in Michigan recently demanded an advance in wages. In answer to the demand made, the employers stated that the schedule proposed was too high to be entertained. They expressed their willingness to make some advance for the sake of good feeling, and promised to state within a few days what they considered a reasonable rate under the circumstances. Advances had been made at some of the mines in other parts of the Lake Superior region; but the Michigan mine owners offered an increase of 20 per cent. This was not satisfactory to the miners, and they came out on strike. Thus the matter now stands. It is noticeable that one effect of this strike is quite favourable to the mines of the much-distressed Mesaba range. When the strike occurred there was, it is reported, a large accumulation of ore at the head of the Lake shipping ports, which could not be got away except at an advance in freights, which the owners refused to pay. The strike contracted the ore output, and the Minnesota mines found themselves provided with abundant shipping facilities at the old rate—85 cents per ton. This will enable the mines of the Minnesota ranges to ship considerably more ore this season than they could well have done had not the strike occurred.

If we were to be blindly guided by the statements delivered at the meeting held on Wednesday, we should have a thorough

belief in the value and the really encouraging prospects of the Hannan's Star Gold Mines (Limited). In the first place, this company has the great advantage of possessing a property situated in one of the most promising gold districts of Western Australia—one, by-the-bye, which became a few days ago enviably famous. It is in this district, as we all know, that Hannan's Brownhill is situated, that company respecting which Herr Bergrath Schmeisser sent so encouraging a telegram as late as last week. But, presuming that this mine will turn out as famous and as valuable as most people seem to be assured, it does not follow that other properties situated in the same district will be equally as rich. All that can be said directly in favour of Hannan's Star is that already, and before it was purchased, some remarkably rich stone was taken out. Mr. Corder-James, who selected the property, took from it several samples, the remarkable value of which greatly surprised him. He naturally, at once, formed an opinion that the mine was extremely rich, and, therefore, he negotiated for it without further hesitation. But before settling negotiations, a report was obtained from a well-known man in Coolgardie, who had occupied the position of Government Mineralogist in Queensland. The results obtained by this gentleman having fully confirmed the assays made by Mr. Corder-James, the purchase was completed. Indications at present are certainly in favour of the company's future being, to say the least, successful.

The improvement in the American iron and steel markets, which, if continued, may have very important effects upon the commercial position in this country, is maintained. There are even now indications of further advances as the demand from the railroads is increasing. There is no argument needed to show what influence a greatly-increased demand from the railroads would have upon the trade in its present condition, and it is very reasonable to believe that this demand must come at some time in the near future. Already prices of steel have advanced between 25 and 30 per cent., and billets have gone up to £4 16s. A drawback, however, is threatened by a strike in the coal trade, which may assume large proportions. At the date of latest advices a convention was being held at Pittsburg, at which it was expected that representative operators would be present. Strong efforts are being made to prevent a strike in this line, and it is to be hoped that they will be successful. The past two years have been trying ones to both labour and capital, and now that they are on the road to recovery it would be most unwise for either to force a contest. From other trades of the country reports of higher wages are received—a most satisfactory sign of returning prosperity.

THE MINING MARKET.

FRIDAY EVENING.

Business Restricted by a Very Heavy Settlement.—
Kaffirs Undecided.—West Australians Strong.—
Miscellaneous Neglected.

A WEEK ago we predicted that West Australians would, for the time being give Kaffirs the go-by in popular favour, and at the moment of writing, this opinion has been justified by results. The attention of the South African Market has been entirely absorbed by the Settlement which commenced on Monday, and can hardly yet be said to be over. Great as have been the difficulties in arranging many previous Accounts, on no occasion has there been such an obstruction to business as has occurred this week. Carrying over was an utter impossibility in the case of numerous varieties of shares, the dealers making a stand against the brokers, and the brokers in turn protesting to their clients that it was absolutely impossible to effect continuation to the next account. How far this state of things was legitimate, it is not easy to say. We have all along pointed out that the fact that the speculative Account was at the mercy of the big money-lenders, provided the chief danger in the present boom. On Monday it was generally put about that a large withdrawal of money from the market was in contemplation. An indisputable fact is that more than one prominent dealer, who has been relied upon for the taking in of certain lines of stock, has retired from the market, closed his book and departed on a holiday which may or may not be protracted. With the withdrawal of accommodation of this class, brokers have evinced no desire to assist their speculative clients. The *flat* has gone forth: "If you cannot pay for your stock, you must close." As a direct consequence there has been an enormous amount of liquidation during the week, and on Tuesday night it was open an secret that thousands of shares, for which continuation was refused, were waiting the upshot of events. Throughout Thursday and this morning the official brokers were hard at work selling out blocks of shares for which "names" were wanted. This in itself is quite sufficient to account for the dullness observable throughout the market. Jobbers who did not wish to be saddled with shares under forced sales, were conspicuous by their absence from the House. The Kaffir Circus was practically deserted, and it was almost impossible to obtain an accurate quotation for anything. In the meantime, shares were passing from weak hands into stronger and we are firmly of opinion that no apprehension need be felt as to an early recovery in prices as soon as the disagreeables of the Settlement are done with. At the same time there is no good in shutting one's eyes to the moral that must be drawn from the exorbitant Contangoes paid upon all classes of African shares wherein continuation was possible. Ten per cent. was a minimum charge, and in numerous cases as much as 25 per cent. per annum was paid. There is good reason for supposing that the real money-lenders did not obtain their fair share of these rates, and the fact that the jobbers exacted an undue profit upon their account work, may have actuated capitalists in withdrawing support. It is probable that before the next Account comes round arrangements will have been made for the introduction of fresh funds into the Market. One of the large Scotch banks is said to be willing for the first time to take in mining shares, and from other quarters help is expected, so that the recurrence of such a Settlement as the last may be obviated.

On Monday there was an active bidding for Kaffir shares in the last hour or two, higher prices being reported from Paris, with the result that a hardening of quotations was shown all down the list. Some substantial gains were shown, and, strange to say, the biggest rises were in

those shares upon which the contango was heaviest. There was no trouble with the account in West Australians, as buyers have all along understood that they must be prepared to take up their purchases. For this reason the Account appeared small, and prices were soon on the upward tack for next time. The Miscellaneous Market was firm, without a great deal of change. On Tuesday the difficulties of the carry over became more apparent, and belated bulls were offering the most extravagant rates for accommodation. Prices generally gave way, though there were strong features. West Australians were less active, attention being confined to three or four specialties which scored good improvements. On Wednesday the Continent came to the rescue, the result being a general improvement in tone. West Australians had a weak opening, but closed very strong, whilst there was not much doing in Miscellaneous. On Thursday members were kept close at their offices, the requirements of Pay Day having assumed such dimensions as to preclude the possibility of much new business. West Australians were all the rage, and Kaffirs dull. The official selling-out has acted as a deterrent to fresh business to-day, and the generally dull tone is sufficiently explained by the exhaustion to which the labours of the week have reduced both jobbers and brokers. In the street there are symptoms of a spurt, and good judges regard the outlook as hopeful, the weeding out which has been in progress being calculated to impart valuable strength to the speculative position. West Australians have a decidedly healthy appearance.

South African Shares.

The August output at the Witwatersrand announced on Thursday was 2632 ounces better than that for June, the previous record, the total being no less than 203,573 ounces. The news came out at a time when everybody was engaged with other matters, so that its legitimate effect upon the market was missed for the moment. There can be no doubt, however, that these highly satisfactory figures are duly taken into the calculations of those who know most about the South African mining industry; nor will the outside public overlook their import. Under the conditions that we have reported big changes in price, as compared with last week, are not to be expected. The Barnato Stocks have been fairly well supported, the chief gain being in Glencairn at 4½, on the August yield of 5209 ounces. The Primrose return of 12,206 ounces was accepted as eminently satisfactory, but the shares are ¼ lower at 7½. Buffels at 8½, Crossus at 3½, Ginsberg at 2, and Spes Bona at 2½, are merely the turn of the market easier, whilst losses of ½ are shown in Knights at 10, and Retfontein at 5½. Mays are a shade harder at 3½ on the declaration of a dividend. "Johnnies" are ¼ down at 5½, "Barney" Banks ½ down at 3½, after being as low as 3½, and "Barney" Consols, in which the special settlement is fixed for Tuesday next, are unchanged at 4½. Of the Robinson stocks attention has been principally devoted to Randfontein, which, despite exceptional difficulty in continuation, are ½ higher at 4½, after being up to 4½. Block B, to the prospects of which we drew attention last week, are ½ higher at 3½. The large increase in the crushing return, announced a day or two ago, appears to justify anticipations of a further rise in the shares. Langlaagte Estate are ½ down at 6½. East Rands were the subject of a good deal of trouble on Contango day, bulls paying as much as 2s. a share. Bidding for the new Account was in strong progress on Monday and Tuesday, the price rising to 10½. At the close the shares are no better than 9½, a gain of ½. A rise of ½ in St. Angelo to 7½, was a feature of Monday's market, and the last price, 7½, shows a net gain of 1½. Rand mines touched 39, but close practically unchanged at 38. The only other material change in Deep Levels is a relapse of ½ in Goldfields to 10½. Among the steady-going dividend-payers, the chief move is in Ferreira, which jumped up 1½ on Monday, and close a couple of points to the good at 20½. City and Suburban are now split up into £1 shares to comply with the requirements of the Paris Bourse. The new shares are ½ up on the day at 7½. Henry Nourse shows a drop of a point at 7. Wemmers are ½ down at 10½, and Simmers ½ lower at 21½, whilst Salisbury have recovered from temporary weakness, and close unchanged at 5½. A sensational change is a loss of 5 points in Apex at 10½. African Gold Properties have recovered to 3½, and the subsidiary Randt Gold are in demand at 8s. 6d., Paris having come in as a buyer. Durban-Roodepoort has gained ½ at 8½, a 15 per cent. dividend having been declared. Crown Reef is ½ easier at 11½. Gold Coast Developments and their offspring, Gold Reef of West Africa, are coming in for considerable attention. The latter are 5s. shares quoted at 5s. 6d. or thereabouts. There has been an active business in Luipard's Vlei, which, however, close below the best at 31s. Rand Reefs are slightly better at 15s. 9d., and Sutherlands 6d. down at 12s. 6d. The Van Ryn group is easier, Norths being ½ down at 2 premium. Wolluter has lost ½ at 10. There has been renewed activity in New Africans, which close ½ better at 9½, with the allied Austral Africans ¼ up at 3½. These are expected to further improve. Gold Trusts are ½ down at 10½ and a loss of ½ is shown in Consolidated Gold Fields at 15½. The rate on Chartered was very heavy, but nevertheless the price is well maintained at 8½ buyers. Considerable option business has been transacted. Enquiries for Rhodesian Mining and Finance have been numerous without affecting the quotation. A share worth attention is that of the Rand Southern Company, now obtainable at a shade under par. Becks are ¼ better at 3½, and Klerksdorp, after considerable fluctuation, are finally 2s. down at 24s. 6d. Some activity in Diamond shares leaves De Beers ¼ better at 30½, Jagers unchanged at 11, Beaconsfield ½ higher at 2, and Gordons 1s. 6d. down at 12s. The Lydenburg group has been dull, with small losses in Spitzkop at 1½, Lisbons at 11s. 6d., Balkis Esterling at 9s. 9d., and Graskops at 10s.

West Australians.

An enormous business has been transacted in the shares of all the companies owning property in the Hannan's district. The most important move is in Associated Gold Mines to which we have drawn attention for the last two or three weeks. The price is ½ higher on balance at 2½, and the opinion of good judges is that the rise is by no means over. Hannan's Brown Hill came into renewed demand this afternoon and close ½ up at 6½, Hannan's Reward being ½ up at 4½ and True Blue in strong request at 3½. Great Boulders are slightly better at 7½, and West Boulders have nearly doubled in value at 2½. The Finance Companies especially interested in Hannan's properties have naturally benefited by the popularity of that district. West Australian Explorations being a point up at 6½. Investments ½ to the good at 2½, and Pioneers ½ higher at 2½. There has been a strong demand for Colonial Finance, the shares of which on Thursday rose to 4 premium, though this morning there was a slight set back. London and Globe Finance at 1½ premium are a promising holding. Westralia (Limited) have recovered to 2½. The subsidiary Westralian Electric Lighting and Supply

Company has been floated with a capital of £80,000, and the directors have on the way the flotation of the Lone Hand, a rich mining property in the 25 mile district, and another near the Big Blow. A new introduction into this market is the Mines and Banking Corporation, with a capital of a quarter of a million in £1 shares, the whole of which have been subscribed chiefly by various mining companies. The shares are already standing at ½ premium, and are likely to advance. The Hampton Group has been strong this week, Plains going over 5 on Thursday, and closing ½ better on balance at 4½. Lands are 7½ and Exploration 17s. 6d. A strong move has occurred in Fingall's Reef, carrying them ½ up to 2½. Golden Crown are unchanged at 2½, Golden Link ¼ better at 2½, and Lady Loch ½ up at 1½. Londonderry are unchanged at ½.

Miscellaneous.

The Account has interfered with business in this market quite as much as in the more popular Kaffir Circus. The New Zealand group, however, has been active, Waihi closing ¼ up at 7½, and Hauraki 1s. down at 14s. Charters Towers varieties have been quiet. Briliants are rather better at 15s. 9d., having been bought by well-informed Colonials. There is very little change in Indians, though at any time these might be taken in hand. Wentworths are rather lower at 1, whilst Aladdins have put on ½ at 1½. Broken Hills, after touching 2, are unchanged at 1½. Burna Rubys have lost 1s. at 23s. 6d. In copper shares considerable strength has been developed by Rio Tintos, which close ½ up at 18½. Masons and Tharsis are unchanged at 2½ and 5½ respectively. Straits Developments are weak at 1½, whilst the long promised move in Deccans seems to be on the way at last, the shares having changed hands at 5½ during the week.

British Mines.

There has not been much doing in Cornish shares this week, and prices have slightly receded, but to-day the tone is better, and there is more inclination to buy than for some time past. Carn Breas are quiet with sellers at 40s. Dolcoath fully-paid are about 19s., and for 5s. paid 6s. was bid, and sellers ask 6s. 6d. to 6s. 9d. When the Settling has been arranged it is probable that these shares will receive more attention. Operations on the mine are being vigorously carried on, and increased returns will soon follow. East Pool quiet at 4½. Tincroft are flat at 7½, but it is not easy to assign any reason for the sudden drop in shares. West Kitty are flat 4½. Wheel Basset steady at 2½. Grenvilles steady at 13½. Wheel Kitty rather easier at 2s. 6d. The amalgamation of Tincroft with Cook's Kitchen and Wheel Basset with South Frances has been arranged. The probability is that these four properties will now be worked to considerable advantage. It is to be hoped that when the committee of East Pool and Wheel Agar meet to-day (Saturday) that reasonable counsel will prevail, and that in early course the points at issue will be settled by arbitration.

STOCK EXCHANGE SETTLING DAYS.

Settling Days on the Stock Exchange are as follow:—

CONSOLS.

Tuesday, October 1.

STOCKS AND SHARES.

SEPTEMBER.

Ticket Days.

Thursday, September 26

Account Days.

Friday, September 27

OCTOBER.

Tuesday, October 15

Wednesday, October 16

Tuesday, October 29

Wednesday, October 30

Contango Days for South African Market:—

Tuesday, September 24

Saturday, October 12.

RAND OUTPUT FOR AUGUST.

TELEGRAPHIC advices received from Johannesburg state that the gold crushings on the Witwatersrand fields for the month of August were 203,573 ounces. This is an increase of 4120 ounces over the July output, and 2632 ounces over the June output, the previous record. The following table gives the crushings to date:—

	1890	1891	1892	1893	1894	1895
January ...	Ozs. dwt. 35,008 15	Ozs. dwt. 35,205 15	Ozs. dwt. 34,849 8	Ozs. 108,374	Ozs. 140,814	Ozs. 177,453
February ...	36,887 5	50,079 2	36,649 8	93,252	151,870	169,295
March ...	37,782 2	39,949 1	39,344 11	110,474	165,372	184,545
April ...	38,695 13	35,871 16	35,562 6	122,033	158,745	188,323
May ...	38,838 3½	34,673 1	39,438 6	116,311	169,773	194,581
June ...	37,149 10	36,868 1	103,252 3	122,307	168,168	200,341
July ...	39,456 14	54,924 10	110,279 1	125,149	167,953	193,453
August ...	42,863 11	58,070 4	107,312 3	136,059	174,977	203,573
September ...	45,485 19	65,501 5½	107,851 13	129,585	174,077	—
October ...	45,248 17	77,793 8	112,167 8	138,599	173,378	—
November ...	46,782 18	73,393 15	106,794 15	136,640	175,369	—
December ...	50,352 15	50,312 11	170,748 17	146,357	182,101	—
Total ...	494,817 2½	729,237 2½	1,130,868 8	1,478,473	2,025,224	1,526,574

INDIAN MINES OUTPUT FOR AUGUST.

DURING last month the output of the producing mines in Mysore, India, was 20,704 ounces, showing an increase of 1,424 ounces as compared with the preceding month, and an increase of 1,631 ounces as compared with the corresponding month of 1894. The production since the beginning of 1891 has been as follows:—

	1891.	1892.	1893.	1894.	1895.
January ...	Ozs. 10,180	Ozs. 11,674	Ozs. 16,844	Ozs. 17,026	Ozs. 19,672
February ...	10,121	11,789	16,666	16,808	19,368
March ...	10,117	11,579	17,463	16,080	20,257
April ...	9,392	11,813	18,287	15,551	20,399
May ...	10,509	12,488	17,922	16,543	20,797
June ...	10,746	11,847	16,879	15,459	20,839
July ...	11,097	13,272	16,676	15,871	20,839
August ...	11,223	14,854	16,692	19,073	19,280
September ...	11,396	15,529	17,080	19,111	20,704
October ...	12,086	16,922	17,440	19,119	—
November ...	11,647	15,942	17,557	18,825	—
December ...	11,589	16,435	17,659	19,068	—

Total ... 130,137 ... 168,140 ... 207,135 ... 209,729 ... 192,145

The outputs of the individual mines for the past six months have been:—

	Mar.	Apr.	May.	June.	July.	Aug.
Corangum ...	Ozs. 5,533	Ozs. 5,808	Ozs. 6,046	Ozs. 6,012	Ozs. 6,039	Ozs. 6,032
Mysore ...	5,435	5,478	5,453	5,056	3,626	4,814
Champion Reef ...	5,610	5,648	5,651	5,910	6,008	6,068
Nendyadong ...	3,103	3,180	3,175	3,201	3,236	3,281
Chommandal ...	—	—	—	—	—	—
Mine Reefs ...	200	220	205	133	71	64
Balaghat ...	130	—	—	—	—	—
Mysore Reefs ...	—	120	—	236	—	306
Mysore W. and ...	—	—	—	—	—	—
Wynad ...	156	160	264	—	—	—
Terrakonda ...	—	—	—	291	306	104

The PUBLIC SUBSCRIPTION LIST will OPEN on SATURDAY, September 14th, 1895, at 10 a.m., and CLOSE for Town and Country on TUESDAY, the 17th September, at Noon.

The entire amount of £250,000 of the Working Capital having been underwritten, the Directors will proceed to Allotment on Tuesday, September 17th, 1895, when an absolute *pro rata* Allotment will be made.

CENTRAL WEALTH OF NATIONS, LIMITED.

COOLGARDIE GOLD FIELDS, WESTERN AUSTRALIA.

Incorporated under the Companies Acts 1862 to 1890.

CAPITAL £160,000
in 160,000 SHARES OF £1 EACH.

Of which 100,000 are now offered for public subscription at par. Payable 1/2 Shillings and Sixpence per Share on Application, Seven Shillings and Sixpence per Share on Allotment, and the balance as and when required. The remaining 60,000 Shares will be issued to the Vendor in part payment of the purchase consideration.

DIRECTORS.

COLONEL W. J. ENGLEDEU (late R.E.), Chairman of the Mur-chison Gold Fields, Western Australia, Limited.
LORD GLENTWORTH, Colbridge, Ireland.
J. W. HUGHES, Esq. (of Messrs. Hughes, Chemery and Co., 118, Bishopsgate Street Within, and Paris), Director of the Harvey Steel Company of Great Britain, Limited.
DANIEL KING, Esq. (Messrs. Bullard, King and Co., Natal Line of Steamers), Shipowner, 14, St. Mary Axe, London, E.C.
W. P. LAPAGE, Esq., Director of Brown Hill Extended, Limited (Hannan's Find), West Australia.
WILLIAM LONSDALE, Esq., Director of Golden Crown, Limited.
WALTER S. B. McLAREN, Esq., The Nook, Maidenhead.

BANKERS.

BROWN, JANSON, and CO., 32, Abchurch Lane, London, E.C.
BANK OF AUSTRALASIA, Threadneedle Street, E.C.

BROKERS.

Messrs. E. B. HASELDEN and CO., 27, Throgmorton Street, E.C., and Stock Exchange.

SOLICITORS.

Messrs. MINCHIN and CO., 2, Metal Exchange Buildings, Gracechurch Street, E.C.

AUDITORS.

Messrs. HERMAN, LESCHER, and CO., Chartered Accountants, 6, Clement's Lane, E.C.

SECRETARY AND OFFICES (pro tem.).

Mr. HENRY FIRMIN, 31, LOMBARD STREET, E.C.

ABRIDGED PROSPECTUS.

This Company has been formed for the purpose of acquiring a block comprising Claims Nos. 1078, 1079 and 1080, as per the accompanying sketch plan, and lying immediately south of and adjoining the celebrated Wealth of Nations Mine, situated on the Coolgardie Gold Fields, Western Australia. The property consists of a total area of 62 acres, or thereabouts, on the line of the Wealth of Nations Reef, which passes through each of the Claims 1078 and 1080, dipping into Claim 1079, through which latter claim, as well as through Claim 1080, a rich cross reef runs.

The following is the full report made by Mr. J. C. JESSON, Manager of "Burbank's Birthday Gift," to the owners of the Central Wealth of Nations Blocks—viz., 1078 and 1080, dated the 8th March, 1895:—
"This property is situated south, and adjoining the celebrated Wealth of Nations Lease, from which such a large quantity of gold was got out in the quickest time on record. There are two leases of 35 acres each, and these 80 acres were pegged out immediately upon the find at the Parent Claim Wealth of Nations being known.

The property has been well prospected by several shafts, and open cuts or eastern trenches.

The deepest shaft, of which there are several, is 30 feet in depth, sunk on the reef, disclosing the quartz in the bottom of the shaft to be about 4 feet wide, and carrying gold of a payable nature, and several assays made show 12 ounces of gold to the ton.

Water has been struck on the flat close to the Wealth of Nations claim, which almost adjoins this property; the position of this water find practically solves the water question with respect to this property, and will render the working most economical. A quantity of rich specimens were obtained on the surface of the Northern Block when first the discovery was made, all of the specimens being sherd from the outcrop of the reef, and none of them being of an alluvial nature, leads me to believe that further sinking will disclose an equally rich shoot of stone to that already discovered, and vigorous working of the mine would, I am sure, yield a highly remunerative return to the investors."

Mr. ROBERT B. GLEIBBERG, M.E., Freiberg, in his report on Lease No. 1080, dated Coolgardie, 24th February, 1895, addressed to Mr. Brenton Symons (referred to below), says:—

"I have visited Lease No. 1080

"when fully opened out will, in my opinion, be a very valuable one."

"The celebrated Wealth of Nations Reef, on which, with comparatively little work, such good prospects have been obtained, as already stated, runs right through the property from north to south. The second reef, which I have spoken of with an east-north-westerly course, and at the intersection of these two reefs a rich gold shoot will in all probability occur; such is usually the case in Coolgardie Gold Fields under similar circumstances. . . ."

Mr. BRENTON SYMONS, M.L.C., F.C.S. (who acted as Consulting Engineer to, and Agent for the West Australian Mine Owners' Exploration Syndicate, Limited, in the acquisition of Lease No. 1080), in a report on Leases 1078, 1079, and 1080, dated 15th August, 1895, and addressed to the Directors of this Company, says:—

"I have personally inspected these properties, and only returned from Western Australia in June last."

"The lode, wherever exposed, is strong with well-defined walls, yielding quartz of good quality, showing gold."

"A quantity of rich quartz was found on this claim near its northern boundary in the deep soil, which spreads over the depression under the Wealth of Nations Bonanza Hill; this had fallen from the lode outcrop on this claim."

"The Wealth of Nations Lode at the Southern limit of 1078 enters the Claim No. 1080, and traverses its entire length, and as the dip is 75° to 75° South-West, the lode will be cut in depth in Claim 1080."

"Having regard to the masterly and persistent character of the main lode I can recommend these claims as valuable gold-bearing properties, which justify the fullest development. With a sufficient working capital of (say) £250,000, of which £20,000 should be subscribed, and skilled management they should pay handsomely. In my opinion the course of ore in the lodes above described will yield from 1 to 3 ounces to the ton."

Three Reports in extenso accompany this Prospectus.

The Directors have for their own satisfaction sent the following Cablegram to Mr. P. BOWEN-SMITH (late of Messrs. Balmbridge, Seymour and Co.), Consulting Mining Engineer, Coolgardie, for a detailed Report and a detailed Synopsis of it:—

25th August, 1895.—Examine and report upon Leases 1078, 1079, 1080, Wealth Nations on behalf of Independent Board of Directors. Apply to Eburn, who is now in complete charge. Cable resume of your report. Must have your report on or before 25th August.

He replied as follows:—

23rd August, 1895.—Systematic developments, none. Bearing Wealth Nations Reef through 1078. Claim South—1080. One contains visible Gold. The situation of the Property generally is excellent.

They thereupon cabled:—

23rd August, 1895. Directors consider it vital you should cable all needful particulars for preparing report for public Prospectus. You have not mentioned Lease 1080.

He replied:—

24th August, 1895. The property covers 62 acres, adjoining Wealth Nations, 33 miles distant from Coolgardie. Seems likely to develop into a very valuable property. Nations reef has been proved at (for) a distance of 300 feet on the North of 1078. To all appearances will pass through 1080. Of the remainder, 1027 surface indications show promising croppings. There are veins on the property 1080; cannot form any opinion in the present undeveloped state of.

Notwithstanding Mr. Brenton Symons estimate as to Working Capital, the Directors have arranged that 50,000 Shares should be set aside for its provision. Of these the subscription of £25,000 has been guaranteed.

This form of application can be used:—

FORM OF APPLICATION FOR SHARES.

CENTRAL WEALTH OF NATIONS (LIMITED).

To the Directors of the Central Wealth of Nations (Limited).

Whereas paid to your Bankers

being a deposit of Two Shillings and Sixpence per Share on

of £1 each in the above-named Company, I request you to allot me

number of Shares, and I agree to accept and pay for the same, or any less number, upon the terms of the Prospectus dated the 14th day of September, 1895, subject to the Memorandum and Articles of Association of the Company, and I agree with the Company as Trustees for the Directors and other persons who may be liable, to waive any further compliance with Section 33 of the Companies Act, 1867, than is contained in the said Prospectus.

Ordinary Signature

Name (in full)

Address (in full)

Profession or Occupation

Date

MINING IN CORNWALL

AND DEVON:

NOTES ON MINING IN THE WEST.

(FROM OUR SPECIAL CORRESPONDENT.)

THERE is still very little activity in the Cornish Share Market, and such movements as there are in prices are nominal and unimportant. Within the last week or two we understand that a fair number of shares, particularly in Dolcoath (Limited), have been picked up quietly, and the markets are not really so bad as the inactivity on the Mining Exchange would suggest. After such a long period of depression it is only natural that the weaker holders should have succumbed, with the result that, as a general rule, shares in Cornish mines are at the present moment as well held as they ever have been. How long the present holders will be inclined to continue, in the absence of any rise in prices, is quite another question; indeed, events at Cook's Kitchen, Wheal Agar, and South Frances rather indicate a disposition on the part of many to bring their obligations within narrower limits. The fact of them continuing to be large shareholders at all shows that they must still have confidence in tin and though the price continues to be unsatisfactory, the outlook is more promising than it has been for some time.

CONSIDERABLE comment has been aroused among mining men by the delay which has taken place in starting the sinking of the new perpendicular shaft at Dolcoath, but it has been occasioned by the desire of the directors to thoroughly consider both the situation and the character of the shaft. The situation has not required very much consideration. It was obvious that it must be to the south of the present workings so as to intersect the lode at a deeper point. It has not yet been definitely decided whether the shaft shall be round or rectangular, and expert opinion is divided as to the relative merits of the rival types. Most Cornishmen favour the rectangular shaft, and claim as their great advantage an increased available space, while the advocates of the round shaft base their opinion on the greater security and freedom from accidents which a round shaft ensures. The matter is hardly one of the last importance, and whatever type is finally adopted, the prospects of the mine will not be affected by the decision one way or the other.

IN the meantime the directors have sanctioned some important outlays, which are calculated to increase the efficiency of the mine, and will enable larger quantities of stuff to be dealt with until the new shaft is finished. For instance, it has been decided to put in 20 more heads of Californian stamps, and these are in course of erection. Some additions and improvements are likely to be made to the dressing-floors, and the new winding-engine which was spoken of at the last meeting has been placed in position, and will enable them to draw considerably more stuff than they have been doing recently. Within the next few months very many of the difficulties which have handicapped the executive lately will have been removed, and it will be surprising if the returns from Dolcoath have not largely increased before the next half-yearly meeting.

THE two amalgamations which are under discussion just now seem to be proceeding satisfactorily. At Tincroft this week the new draft lease of Cook's Kitchen was forthcoming, and proved equal to expectation. Teldy office have granted the lease on precisely the same terms as that which Tincroft holds from Lord Roberts, and there is this further stipulation that when Tincroft lease expires in 14 years, the Cook's Kitchen portion shall be again leased on the same terms as shall then be granted by Lord Roberts. Mr. Basset and his advisers have done all that could be expected of them in facilitating the amalgamation of the two mines, and we can only hope that they will soon be in a position to return handsome dues to the lords, as well as dividends to the adventurers.

WHEAL BASSET and South Frances shareholders both met on Tuesday, and passed formal resolutions authorising their executive to register the companies as of "unlimited liability." This is the necessary preliminary step to the ultimate amalgamation and registration as a Limited company. From the manner in which the new shares have already been guaranteed, there is no question now but that the whole thing will be carried through successfully.

TIN TICKETING.

A TICKETING for tin ores was held at Tabb's Hotel, Redruth on Tuesday, September 10, with the following result:—

VALUES OF ORES SOLD BY EACH MINE.				
Mines.	Tons cwt.	Per ton.	£ s. d.	Value.
East Pool A	19 0	36 10 0	693 10 0	0
do B	19 0	36 10 0	693 5 0	0
do No. 2	2 0	17 5 0	34 10 0	0
Wheal Grenville A	21 0	41 12 6	874 2 6	6
do B	15 0	40 17 6	613 2 6	6
do No. 2	4 0	24 12 6	98 10 0	0
Dolcoath No. 1	15 0	40 2 6	601 17 6	0
do No. 1a	15 0	38 5 0	603 15 0	0
South Frances United No. 1	15 0	38 5 0	573 10 0	0
do No. 1a	15 0	38 10 0	577 10 0	0
Wheal Bassett No. 1	13 0	41 10 0	539 10 0	0
do No. 1a	13 0	41 5 0	536 5 0	0
do No. 2	4 0	30 15 0	123 0 0	0
Carn Brea No. 1	14 0	32 10 0	455 0 0	0
do No. 1a	13 0	31 2 6	404 12 6	0
do No. 2	1 10	25 12 6	38 8 9	0
Tincroft	14 0	33 7 6	467 5 0	0
Killifreth	14 0	37 0 0	518 0 0	0
West Kitty	13 0	41 0 0	533 0 0	0
Phoenix United	9 0	40 2 6	361 2 6	0
South Condurrow	7 0	41 7 6	289 12 6	0
Wheal Kitty	5 0	40 10 0	202 10 0	0
	274 10		£10,306 3 9	

Average price per ton, £37 10s. 10d.

AVERAGE PRICES PER TON.

July 30 £37 17 7 | Aug 27 £37 13 0

Aug. 13 37 1 0 | September 10 37 10 10

It is understood that the ring for restricting the output of copper has acquired the well-known Anaconda Mine, which is one of the largest producers in America, and this will greatly strengthen the position of the combination. The shares of the Anaconda will shortly be introduced to the London market.

MURKIN DIAMOND MINES.—The following cable has been received:—"Sinking No. 1 shaft: Development will proceed without delay; very pleased with prospects. Will have a washing as early as possible. Every indication of large yield of diamonds."

THE METAL MARKETS.

LONDON METAL MARKET.

THE METAL MARKET, LONDON, SEPTEMBER 13.

Copper.

CONSUMERS here and on the Continent are very apathetic, and very little consumers' business has been done, although dealers on this side have lowered their prices for refined copper. The speculative market, after being depressed, improved again; firstly, in consequence of the recovery in the value of pig-iron, and, secondly, as a result of the news that the Anaconda copper shares were to be brought out here in London, which led people to suppose that those conducting the operation would endeavour to stiffen the copper market. It appears, however, that the transaction is limited to a sale of 300,000 \$25 shares of the Anaconda Company—i.e., \$7,500,000—to an English syndicate, the total capital of the Anaconda Company being 1,200,000 shares of \$25, or \$30,000,000. The course of the speculative market was as follows:—On Monday a moderate business took place at £46 18s. 9d. to £46 15s. 9d., and £47 8s. 9d. to £47 3s. 9d., three months. The downward movement thus inaugurated made further progress on Tuesday, when a large turnover took place at down to £46 10s. p.c. and £46 16s. 3d. forward, whilst Wednesday brought the calmation of the decline with the payment of £46 3s. 9d. for s.c. and £46 10s. for three months. Buyers came in at these low figures, and the article rallied to £46 7s. 6d. s.c. and £46 17s. 6d. three months. Yesterday spot further improved to £46 13s. 9d., and to-day to £47 1s. 3d., whilst three months advanced to £47 8s. 9d. The market closes very firm at £47 1s. 3d. to £47 2s. 6d. s.c. and £47 8s. 9d. to £47 10s. three months.

Tin.

The earlier business in this article was small in extent, whilst prices showed a slight falling-off, which continued until, from £65 2s. 6d. for spot Straits, we had arrived—on Tuesday evening—at £64 15s. At this juncture buyers exhibited more interest, and their operations resulted in a steady improvement, three months rising from £65 2s. 6d. to £65 12s. 6d. The quantities done remained comparatively unimportant. To-night, after business at £5 15s. three months, the market closes firm at £65 7s. 6d. to £65 10s. s.c., and £65 15s. to £65 17s. 6d. three months for Straits. In the Dutch market there has been exceedingly little movement. The value of cash Billiton remained at 39 fl. from Monday to Thursday. This morning it improved to 39½ fl., three months also going up from 39½ fl. to 39½ fl. Banca closes at 39½ fl.

Pig Iron.

6295 tons were shipped from Scotland last week, as against 1623 tons in the same period of last year. Values declined rapidly in the earlier part of the week from 49s. 1d. to 47s. 9d., fluctuating thenceforward between the two extremes named, without again touching either. The close is at 48s. 7d. s.c. Scotch, whilst hematite closes at 50s. 10d., and Middlesbrough at 39s. 8½d.

Lead.

The firmness has not been maintained, but has given place to a dull and stagnant market, with values closing about 5s. lower—viz., at £10 15s. to £10 17s. 6d. soft foreign, and £10 17s. 6d. to £11 English.

Spelter.

Second-hands being apparently for the most part cleared out, the market begins to look firmer, and we close higher at £15 6s. 3d. to £15 7s. 6d. ordinaries, and £15 7s. 6d. to £15 10s. specials.

Antimony.

unchanged at £31 10s.

Quicksilver.

Nothing new; quotations, £7 5s. firsts £7 3s. 6d. seconds.

The following are to-night's (September 13) prices of metals:—

Copper.			
Tough cake and ingot	per lb.	£ s. d.	£ s. d.
Best selected	per lb.	47 1 0	47 0 0
Electrolytic Copper	per lb.	47 0 0	47 0 0
Sheets and sheathing	per lb.	47 0 0	47 0 0
Flat bottoms	per lb.	47 0 0	47 0 0
Chill bars	per lb.	47 0 0	47 0 0
Good merchantable, spot, & 3 months respectively	per lb.	47 1 3	47 0 0
Copper tubes, seamless	per lb.	47 0 0	47 0 0

Alloys.			
BRASS: Wire	per lb.	0 0 5½	0 0 5½
" Tubes (solid drawn)	per lb.	0 0 5½	0 0 5½
" Sheets	per lb.	0 0 5	0 0 5
PROOFING BRASS: Alloys II.	per lb.	0 0 5	0 0 5
" " III. "	per lb.	0 0 5	0 0 5
" " VII. "	per lb.	0 0 5	0 0 5
" " XI. "	per lb.	0 0 5	0 0 5
" " Vulcan brand A1	per lb.	0 0 5	0 0 5

Duro Metal.			
BRASS: Wire	per lb.	0 0 5½	0 0 5½
" Tubes (solid drawn)	per lb.	0 0 5½	0 0 5½
" Sheets	per lb.	0 0 5	0 0 5
PROOFING BRASS: Alloys II.	per lb.	0 0 5	0 0 5
" " III. "	per lb.	0 0 5	0 0 5
" " VII. "	per lb.	0 0 5	0 0 5
" " XI. "	per lb.	0 0 5	0 0 5
" " Vulcan brand A1	per lb.	0 0 5	0 0 5

BULL'S METAL.			
Ingots	per lb.	0 0 5½	0 0 5½
Ordinary sheets, plates, bolts and bars	per lb.	0 0 5½	0 0 5½
Scrap bolts and nuts	per lb.	0 0 5	0 0 5
Pump rods, plain	per lb.	0 0 5	0 0 5
" " " "	per lb.	0 0 5	0 0 5
DELTA METAL: No. 1 (per ton)	per lb.	0 0 5	0 0 5
" " " "	per lb.	0 0 5	0 0 5
" " " "	per lb.	0 0 5	0 0 5
" " " "	per lb.	0 0 5	0 0 5

TIN.			
English, ingots, f.o.b.	per lb.	65 13 0	65 0 0
" " " "	per lb.	65 10 0	65 0 0
" " " "	per lb.	70 10 0	71 0 0
Straits, spot and 3 months respectively	per lb.	65 10 0	65 10 0
Australian spot, and three months respectively	per lb.	65 10 0	65 10 0
Banco	per lb.	65 10 0	65 10 0
TIN PLATES: Charcoal, best quality	per box	9 12 6	9 12 6
" " " "	per box	9 12 6	9 12 6
" " " "	per box	9 12 6	9 12 6
" " " "	per box	9 12 6	9 12 6

IRON.									
Fig. G.M.B., f.o.b. Clyde, spot	per lb.	2 13 6	2 13 6	2 13 6	2 13 6	2 13 6	2 13 6	2 13 6	2 13 6
" Scotch pig, No. 1 Gartsherrie	per lb.	2 13 6	2 13 6	2 13 6	2 13 6	2 13 6	2 13 6	2 13 6	2 13 6
" " " "	per lb.	2 13 6	2 13 6	2 13 6	2 13 6	2 13 6	2 13 6	2 13 6	2 13 6
STEEL.									
Flat plates, Middleshorough	per lb.	2 13 6	2 13 6	2 13 6	2 13 6	2 13 6	2 13 6	2 13 6	2 13 6
Beam: English spring	per lb.	2 13 6	2 13 6	2 13 6	2 13 6	2 13 6	2 13 6	2 13 6	2 13 6
" " " "	per lb.	2 13 6	2 13 6	2 13 6	2 13 6	2 13 6	2 13 6	2 13 6	2 13 6
RAILS AT WORKS, ACCORDING TO SECTION									
1 1/2"	per lb.	2 13 6	2 13 6	2 13 6	2 13 6	2 13 6	2 13 6	2 13 6	2 13 6
2"	per lb.	2 13 6	2 13 6	2 13 6	2 13 6	2 13 6	2 13 6	2 13 6	2 13 6
Load.									
Spanish or soft foreign	per lb.	2 13 6	2 13 6	2 13 6	2 13 6	2 13 6	2 13 6	2 13 6	2 13 6
English pig, common	per lb.	2 13 6	2 13 6	2 13 6	2 13 6	2 13 6	2 13 6	2 13 6	2 13 6
L.B.	per lb.	2 13 6	2 13 6	2 13 6	2 13 6	2 13 6	2 13 6	2 13 6	2 13 6

"THE MINING JOURNAL" SHARE LIST.

ABBREVIATIONS AND REFERENCES.—The following are the significations of the abbreviations and references which occur in the Share List:—A, Antimony; As, Arsenic; B, Blende; Bx, Borax; C, Copper; D, Diamond; G, Gold; I, Iron; L, Lead; M, Manganese; N, Nitrates; P, Phosphates; Q, Quicksilver; R, Ruby; S, Silver; S-L, Silver-lead; Sul, Sulphur; T, Tin; and Z, Zinc. * In the "Amount of Shares" column of British Mines signifies that the mine is conducted on "Cost Book" principles; † in the "Head Office" column of African Mines signifies that the address given is not that of the head office, but of a sub, or transfer office; and ‡, following the names of African Mines, signifies that they are subject to the Limited Liability Law of the South African Republic.

* The following is by far the most complete and comprehensive list of mines, in whose shares business is being currently transacted, published. Additions will be made from time to time as occasion requires. Every effort is made to ensure accuracy, and Secretaries of Companies, Share Dealers, and our readers generally, are cordially invited to co-operate with us to this end, by notifying us of any errors that may at any time occur. We desire it to be understood that, while our Share List will almost invariably be found correct, we do not hold ourselves responsible for any loss or inconvenience that may arise from possible inaccuracies.

BRITISH MINES.

Name.	Closing Price, Sept. 13, 1895.	Closing Price, Sept. 6, 1895.	Am't. of Share	Latest Dividend	Called up Per Share.	Amount of Stock or No. of Shares Issued.	Situation of Mine.	Head Office.
Blue HillsCT	2 1/4	2 1/4	1	2/- May, '81	£ 5 19 5	5,353	Cornwall	Camborne.
BotallackT	2 1/4	2 1/4	1	2/- May, '81	£ 5 19 5	5,353	Cornwall	St. Just.
Carn BreaT	2 1/4	2 1/4	1	2/6 Dec., '93	£ 22 8 5	6,000	Cornwall	Carn Brea.
Cook's KitchenT	2 1/4	2 1/4	1	2/6 Dec., '93	£ 22 8 5	6,000	Cornwall	Camborne.
Devon Gwanton CA	par 1/4 pm.	par 1/4 pm.	1 0	—	£ 0 12 8	25,000	Tavistock	S. Finsbury circus.
Devon Gt. Cons. CA	1 1/4	1 1/4	1 0	1/6 May '95	£ 2 0 0	10,240	Devon	S. Finsbury circus.
Do. CoathT	1 1/4	1 1/4	1 0	—	£ 1 0 0	—	Cornwall	Camborne.
Do.T	1 1/4	1 1/4	1 0	—	£ 1 0 0	—	Cornwall	Camborne.
Drakeville CTM	2 1/4	2 1/4	1 0	—	£ 0 2 0	61,856	Cornwall	Dashwood House.
East HalkynT	20/- 25/-	20/- 25/-	1 0	—	£ 0 12 8	12,000	Flintshire	67, Lord St., Liverpl.
East PoolT	4 1/4	4 1/4	1 0	1/6 Sept., '94	£ 0 9 9	6,400	Cornwall	Illogan.
GawtonCA	1 1/4	1 1/4	1 0	—	£ 2 7 3	12,000	Devon	25, Great St. Helens.
Great LaxeyCA	1 1/4	1 1/4	1 0	5/- Apr., '92	£ 4 0 0	15,000	I. of Man	Douglas, Isle of Man.
Green BurthL	1 1/4	1 1/4	1 0	—/6 June '93	£ 0 19 0	32,000	Cornwall	Newcastle.
HalkynT	9 10	9 10	1 0	2/- June, '95	£ 10 0 0	10,000	Flintshire	Chester.
Do. Dis. Mn. Drain	10 11	10 11	10 0	5% Aug. '95	£ 10 0 0	10,000	Flintshire	Corn Ex. Cmb. Chester.
Isle of ManL	3 1/4	3 1/4	5 0	2/- — 95	£ 5 0 0	14,000	I. of Man	Chester.
KillfretthT	11/ 12/	11/ 12/	—	1/6 Nov., '94	£ 5 11 6	6,000	Cornwall	Truro.
LeadhillsL	3 1/4	3 1/4	1 0	3/- Sep., '92	£ 6 0 0	20,000	Lanarksh.	30, Finsbury-circus.
LlanarmonL	par	par	1 0	—	£ 0 15 0	3,780	Denbigh	S. Werburgh Chmbrs
LlanarmonL	par	par	1 0	—	£ 0 15 0	3,780	Denbigh	Chester.
LevantCT	4 1/4	4 1/4	5	4/- Nov., '94	£ 11 9 6	2,500	Cornwall	Pennance.
LovellT	1 1/4	1 1/4	1 0	—	£ 1 16 7	7,165	Wendron	3, Gt. Queen-st., S.W.
MinersL	1 1/4	1 1/4	1 0	5/6 Mar., '91	£ 0 18 0	9,000	Denbigh	Miners, N. Wales.
Nantod & Td. L.	1 1/4	1 1/4	1 0	6% Feb., '91	£ 0 18 0	9,000	Denbigh	Newcastle-on-Tyne.
New Cocks Kith. TC	—	—	1 0	—	£ 10 18 3	4,900	Cornwall	Camborne.
New MinersL	—	—	1 0	1/- Oct., '92	£ 2 10 0	11,854	Flintshire	6 Queen-street-place.
North HendreL	—	—	1 0	3 p a year 82	£ 1 0 0	1,000	Flintshire	11, Nwgt. St., Chstr.
ParoL	—	—	1 0	—	£ 1 0 0	1,000	Flintshire	Blittier sq. buildings.
Phoenix United TC	—	—	1 0	1/- Mar., '90	£ 2 15 5	18,000	S. Agnes, Cl.	7, Walbrook.
PoiborroT	17/8 22/8	17/8 22/8	1 0	—	£ 1 0 0	1,000	Flintshire	Corn Ex. Cmb. Chester.
RhosmorL	par	par	1 0	40 p a Sept. '91	£ 0 19 0	15,000	Flintshire	Corn Ex. Cmb. Chester.
RhosmorL	par	par	1 0	—	£ 17 10 6	6,123	Cornwall	20, Great St. Helens.
So. Condor TC	2 1/4	2 1/4	3	3/6 Apr., '93	£ 17 10 6	6,123	Cornwall	Pool, Cornwall.
South Crofty TC	1 1/4	1 1/4	1 0	—	£ 2 7 6	6,000	Cornwall	Redruth.
S. Frances Unid. T	1 1/4	1 1/4	1 0	—	£ 1 0 0	10,000	Flintshire	S. Werburgh Chmbrs
South HalkynT	par	par	1 0	—	£ 0 7 0	30,000	Flintshire	S. Werburgh Chmbrs
TalacoreT	par	par	1 0	—	£ 0 16 0	20,000	Flintshire	34, Forgate st., Chstr.
TincroftT	7 1/4	7 1/4	8	2/- Aug., '94	£ 15 7 6	8,000	Cornwall	Carn Brea.
WendlandL	8/9	8/9	4	1/3 Oct., '90	£ 10 10 0	50,000	Durham	3, Lombard-court.
West FrancesT	1 1/4	1 1/4	1 0	2/6 May, '93	£ 17 17 1	6,144	Cornwall	Camborne.
West KittyT	4 1/4	4 1/4	5	2/- Dec., '94	£ 1 2 0	6,000	Cornwall	37, Walbrook.
Wheel & Ag. T	5 1/4	5 1/4	5	2/6 Aug., '88	£ 12 3 0	6,144	Cornwall	Redruth.
Wheel Bassett TC	1 1/4	1 1/4	1 0	—	£ 0 12 9	10,000	Cornwall	110, Cannon-st., E.C.
Wheel Friendly T	1 1/4	1 1/4	1 0	3/- July, '95	£ 18 2 0	10,000	Cornwall	7, Union-court, E.C.
Wheel Grenville T	1 1/4	1 1/4	1 0	3/- Mar., '88	£ 4 5 6	8,500	Cornwall	Truro.
Wheel KittyT	2 1/4	2 1/4	3	—	£ 0 13 9	10,784	Cornwall	14, Broad-street.
Wheel Metal & F. T	—	—	—	—	—	—	—	—

EUROPEAN MINES.

AlamillioL	1 1/4	1 1/4	2 0	1/6 Sept., '95	£ 2 0 0	35,000	Spain	6, Queen-street-place
AvalaQ	0 3/4	0 3/4	1 0	1/- May '93	£ 1 0 0	51,584	Servia	4, Tokenho. Bldgs.
Consett OreT	6	—	1 0	5/- July '94	£ 1 0 0	55,200	Spain	19, Grey-st., N'castle
English Cr. Spelter	3 1/4	3 1/4	1 0	2 1/2 Aug., '94	£ 1 0 0	84,000	Lombardy	9, Queen-street-place
FortunaL	1 1/4	1 1/4	2 0	—/6 Sept., '95	£ 2 0 0	25,000	Spain	6, Queen-street-place
LibiolaC	3 1/4	3 1/4	5 0	4/6 Apr., '95	£ 5 0 0	50,400	Italy	Dashwood Ho., E.C.
LinaresL	5 5 1/2	5 5 1/2	3 0	7/- Sept., '95	£ 3 0 0	14,998	Spain	8, Queen-street-place
Mason & Barry C	2 1/4	2 1/4	5 0	2/- May, '94	£ 5 0 0	185,172	Portugal	87, Cannon-street
PestarenaG	6/6 7/6	6/6 7/6	3 0	—	£ 3 0 0	67,809	Italy	6-7, Queen-street-pl.
PontgibaudSL	—	—	20 0	11/6 Dec., '94	£ 20 0 0	14,000	Coueron	6-7, Queen-street-pl.
Rio TintoC	18 18 1/2	17 1/2 18	10 0	5% July, '95	£ 100 0 0	325,000	Spain	30, St. Swithin's-lane
Do. (Mort. Bonds)	—	—	100 0	5% July, '95	£ 100 0 0	218,927,740	Spain	30, St. Swithin's-lane
Do. (2nd do.)	—	—	100 0	5% July, '95	£ 100 0 0	210,240,860	Spain	30, St. Swithin's-lane
Do. (3rd do.)	—	—	100 0	5 p.c. Apr., '95	£ 100 0 0	257,580	Spain	30, St. Swithin's-lane
HipaniSL	—	—	1 0	—	£ 0 19 0	95,000	Servia	120, Bishopsgt-st., Wn]
TharsisC & S	5 5 1/2	5 5 1/2	2 0	4/- May, '95	£ 2 0 0	625,000	Spain	Glasgow.
West Prus. Pref	—	—	10 0	8% July '95	£ 10 0 0	365	Germany	Walbrook Ho., E.C.
West Prussian Fr.	—	—	10 0	8% July '95	£ 10 0 0	5,490	Germany	Walbrook Ho., E.C.
West Prussian Or.	—	—	10 0	8% July '95	£ 10 0 0	14,050	Germany	Walbrook Ho., E.C.
WohlfahrtL	—	—	1 0	3% Dec., '94	£ 1 0 0	99,894	Prussia	17, Victoria-st., S.W.
WohlfahrtL	—	—	1 0	3% Dec., '94	£ 1 0 0	9,900	Prussia	17, Victoria-st., S.W.

NORTH AMERICAN MINES.

Alaska Mexican G	2 1/4	1 1/4	85	7 1/2-50 July, '95	£ 85	160,000	Alaska	30, St. Swithin's-lane
Alaska Truwell G	4 1/4	4 1/4	85	1/6 July, '95	£ 85	205,000	Alaska	30, St. Swithin's-lane
Almaden & T. S.	1 1/4	1 1/4	1 0	—/6 Mar., '91	£ 1 0 0	358,890	Mexico	5, Queen-street-place
American Belle S	1 1/4	1 1/4	1 0	—/6 Mar., '91	£ 1 0 0	74,850	Mexico	23, College Hill
Anglo Mexican S	62/6 62/9	65/ 65/3	4 0	1/- July '95	£ 4 0 0	158,920	Arizona	74, Geo. st., Edinbor
Arizona (Pref.) C	107 1/2	107	100 0	6 1/2 May '95	£ 100 0 0	213,300	Arizona	74, Geo. st., Edinbor
Do. 1/2 A Deben	100	99	100 0	7% May '95	£ 100 0 0	218,300	Arizona	74, Geo. st., Edinbor
Do. 7/2 B Deben	—	—	—	—	—	—	—	—
De LamarGS	23/6 24/6	22/6 23/6	1 0	1/- Aug., '95	£ 1 0 0	400,000	Idaho	6, Drapers-gardens.
Dickens Custer GS	2 1/4	2 1/4	1 0	—	£ 0 19 9	420,000	Idaho	Winchester Ho., E.C.
ElkhornS	4/6 5/6	6/- 7/-	1 0	—/3 July '95	£ 1 0 0	175,007	Montana	6, Drapers-gardens.
EmmaS	1 1/4	1 1/4	5 0	—	£ 0 5 0	409,818	Utah	15, Geo-st. Mann. Ho.
Gen. M'g. Assoc.	8 1/2	8 1/2	5 10	14/- Apr., '95	£ 6 10 0	27,469	C. Breton	Blomfield House.
Golden Feather G	3 1/4	3 1/4	1 0	—	£ 1 0 0	180,000	California	S. Stephens Co E.C.
Golden Gate G	3 1/4	3 1/4	1 0	—	£ 0 19 6	76,600	California	S. Stephens Co E.C.
Golden Leaf G	2 1/4	2 1/4	1 0	—	£ 1 0 0	300,259	Montana	S. Drapers Gardens.
Harquahale G	9/6 10/-	6/ 7/-	1 0	—/8 Oct., '94	£ 1 0 0	300,000	Arizona	6, Drapers Gardens.
Holcomb Valley G	2 1/4	2 1/4	5 0	—	£ 0 8 0	540,000	California	14, Cornhill, E.C.
Jackson Goldfields	2 1/4	2 1/4	5 0	—	£ 0 8 0	408,825	California	11, Poultry, E.C.
Jay Hawk (New) G	1 1/4	1 1/4	1 0	—/6 Dec., '92	£ 0 19 3	285,000	Montana	Dashwood House.
La PlataS	2 1/4	2 1/4	5 0	—	£ 0 4 8	465,000	Colorado	11, Poultry, E.C.
La YacaGS	3 1/4	3 1/4	1 0	—	£ 0 19 0	200,000	Colorado	20, Bucklersbury, E.C.
Mammoth Gold S	1 1/4	1 1/4	1 0	—	£ 1 0 0	450,000	Mexico	257, Winchester Ho.
Mesa d' Oro (P) G	—	—	5 0	—	£ 0 8 0	10,000	Mexico	Dashwood Ho., E.C.
Mesa d' Oro (D) G	—	—	5 0	—	£ 0 8 0	10,000	Mexico	Dashwood Ho., E.C.
MontanaGS	9/6 10/6	10/ 11/	1 0	—/3 July '95	£ 0 19 0	457,158	Montana	Gresham House, E.C.
New Colorado S	—	—	1 0	—	£ 0 19 8	34,503	Colorado	S. Geo. Ho., E'cheap
N. Gold Hill S	—	—	1 0	—	£ 0 19 9	191,945	Colorado	15, George-st., E.C.
New Gwanton S	3 1/4	3 1/4	1 0	—	£ 1 0 0	110,000	Colorado	254, Old Broad-st.
New Hoover Hill G	—/6 1/-	—/6 1/-	10/-	—/6 Dec., '95	£ 0 10 0	120,000	Colorado	Langthorne Ho., E.C.
PalmareroGS	2 1/4	2 1/4	1 0	—	£ 1 0 0	418,888	Mexico	4, Copthall-building
Pinos Altos (D) GS	3 1/4	3 1/4	1 0	—/8 Mar., '90	£ 1 0 0	100,000	Mexico	110, Cannon-street.
Do. 1/2 Cum Pref	3 1/4	3 1/4	1 0	—	£ 2 0 0	80,000	Mexico	110, Cannon-street.
RichmondGSL	1 1/4	1 1/4	5 0	—/1 Nov., '94	£ 6 0 0	84,000	Nevada	44, Coleman-street.
Sierra Butte S	3 1/4	3 1/4	2 0	—/8 Apr., '95	£ 2 0 0	122,500	California	124, Leadhill-st.
Do. Pumas Kur. G	3 1/4	3 1/4	2 0	—/8 Apr., '95	£ 2 0 0	140,866	California	124, Leadhill-st.
SpringdaleG	3 1/4	3 1/4	2 0	—/8 Apr., '95	£ 2 0 0	1,000,000	Colorado	20, Abchurch Lane.
Twin Lake Pioneers	1 1/4	1 1/4	1 0	—/3 Feb., '95	£ 1 0 0	25,000	Colorado	S. Lawrence P. H. E.C.

AUSTRALIAN AND NEW ZEALAND MINES.

Name.	Closing Price, Sept. 12, 1895.	Closing Price, Sept. 6, 1895.	Am't. of Share	Latest Dividend.	Called up per Share.	Amount of Stock or No. of Shares Issued.	Situation of Mine.	Head Office.
AbbottsG	1 1/4 1 3/4	1 1/4 1 3/4	1 0	—	£ 0 17 6	67,000	M'rhobson	17, Old Broad-st.
Achilles Gld. Fld.	3/6 4/6	3/6 4/6	1 0	—	£ 0 2 8	642,458	N. Zealand	Poultry.
Adams Lamp G	1 1/4 1 1/4	1 1/4 1 1/4	1 0	2/6 Sept. '95	£ 1 0 0	100,000	N. S. Wales	4-6, Throg. Avenue.
Anglo-Ger. Explor.	2 1/4 2 1/4	2 1/4 2 1/4	1 0	—	£ 1 0 0	99,000	W. Austral	79, Queen Street.
Assoc. Gold Mines	2 1/4 2 1/4	1 1/4 1 1/4	1 0	—	£ 1 0 0	375,000	W. Austral	20, Bucklersbury.
AustrianG	3 1/4 3 1/4	3 1/4 3 1/4	1 0	—	£ 1 0 0	66,000	Queensland	23, College Hill, E.C.
AustralianG	3 1/4 3 1/4	3 1/4 3 1/4	1 0	—	£ 1 0 0	210,000	Queensland	6, Queen-st. place
AustralianG	3 1/4 3 1/4	3 1/4 3 1/4	1 0	—	£ 1 0 0	18,315	S. Austral.	15, Old Jewry Chmbr.
Aus. Bro. Hill Con.	2 1/4 2 1/4	2 1/4 3/4	1 0	—	£ 1 0 0	522,708	N. S. Wales	Dashwood House.
Baker's Creek G	17/6 20/	17/6 20/	1 0	1/- May '95	£ 0 17 6	100,000	N. S. Wales	Hillgrove, N.S. Wales.
Bayley's Reward G	7/ 8/	7/ 8/	1 0	—/4 Dec. '94	£ 1 0 0	480,000	Queensland	Fab'y. H. Bl'mid St.
Big BlowG	1 1/4 1 1/4	1 1/4 1 1/4	1 0	—	£ 1 0 0	145,000	Queensland	Blomfield Ho., E.C.
Blackett's Claim G	1 1/4 1 1/4	1 1/4 1 1/4	1 0	—	£ 1 0 0	85,000	Queensland	Winchester House.
Black Flag.....G	1 1/4 1 1/4	1 1/4 1 1/4	1 0	—	£ 1 0 0	100,000	W. Austral	4, Picardy Pl., Edin.
Bonnie Dundee G	1 1/4 1 1/4	1 1/4 1 1/4	1 0	—	£ 1 0 0	122,000	W. Austral	20, Bucklersbury.
Brilliant.....G	1 1/4 1 1/4	1 1/4 1 1/4	1 0	—	£ 1 0 0	250,000	Queensland	2, Met. Exch. Bldg.
Brilliant.....G	1 1/4 1 1/4	1 1/4 1 1/4	1 0	—	£ 1 0 0	70,000	Queensland	16, S. Helen's Place.
Brilliant, St. Geo. G	1 1/4 1 1/4	1 1/4 1 1/4	1 0	—	£ 1 0 0	72,000	Queensland	Charters Towers.
Brit. Brok. Hill S	1 1/4 1 1/4	1 1/4 1 1/4	1 0	—	£ 1 0 0	240,000	N. S. Wales	Dashwood Ho., E.C.
Brit. Broken Hill S	1 1/4 1 1/4	1 1/4 1 1/4	1 0	—	£ 1 0 0	240,000	N. S. Wales	Dashwood Ho., E.C.
Britons United.....G	1 1/4 1 1/4	1 1/4 1 1/4	1 0	—	£ 1 0 0	950,000	N. S. Wales	57, Moorgate Street.
Broken Hill Prop. S	1 1/4 1 1/4	1 1/4 1 1/4	1 0	1/- Sept. '95	£ 0 8 0	—	N. S. Wales	Dashwood Ho., E.C.
CaledonianG	4/ 4/6	3/6 4/6	1 0	—	£ 0 12 6	100,000	W. Austral	Portland House.
Carrington.....G	6/6 7/6	7/ 8/	1 0	—	£ 0 12 6	100,000	Queensland	2, Tokenhouse Yard.
Cashman Brier.....G	1 1/4 1 1/4	1 1/4 1 1/4	1 0	—	£ 1 0 0	115,000	W. Austral	Winchester House.
Cassidy Hill.....G	1 1/4 1 1/4	1 1/4 1 1/4	1 0	—	£ 1 0 0	100,000	W. Austral	4, Picardy Pl., Edin.
Central Boulder.....G	1 1/4 1 1/4	1 1/4 1 1/4	1 0	—	£ 1 0 0	100,000	W. Austral	20, Bucklersbury.
Do. Exp. of W. A.	2 1/4 2 1/4	2 1/4 2 1/4	1 0	—	£ 1 0 0	122,000	W. Austral	2, Met. Exch. Bldg.
Chaffers.....G	5/ 6/	6/3 6/3	1 0	—	£ 1 0 0	300,000	W. Austral	85, London Wall, E.C.
Charters Tow.G	2/ 2/6	2/ 2/6	1 0	—	£ 0 9 0	200,000	Queensland	110, Cannon Street
Do. Consolid.....G	1/6 2/	1/9 2/3	1 0	—	£ 0 8 0	300,000	Queensland	130, Cannon Street
Colonial Finance.....G	3 1/4 3 1/4	—	1 0	—	£ 1 0 0	100,000	W. Austral	139, Cannon Street
Do. Founders.....G	1 1/4 1 1/4	1 1/4 1 1/4	1 0	—	£ 1 0 0	90,000	W. Austral	151, Cannon-st. E.C.
Con. G. M. of W. A.	1 1/4 1 1/4	1 1/4 1 1/4	1 0	—	£ 0 5 0	100,000	Cool. W. A.	Broad Street Avenue.
Coolgardie Gold.....G	1 1/4 1 1/4	1 1/4 1 1/4	1 0	—	£ 0 6 0	40,000	Queensland	Winchester House.
Coolgardie Min. G	1 1/4 1 1/4	1 1/4 1 1/4	1 0	—	£ 1 0 0	150,000	Coolgardie	30, S. Swithin's in.
Do. Mint & I. Kg.	1 1/4 1 1/4	1 1/4 1 1/4	1 0	—	£ 1 0 0	150,000	Coolgardie	30, S. Swithin's in.
Coolgardie (Shirlw.)	1 1/4 1 1/4	1 1/4 1 1/4	1 0	30% June '95	£ 0 6 0	—	Coolgardie	Broad Street Avenue.
Con. Murchison.....G	1 1/4 1 1/4	1 1/4 1 1/4	1 0	—	£ 1 0 0	250,000	Murchison	Broad Street House.
Craven's Cal.G	3 1/4 3 1/4	3 1/4 3 1/4	1 0	—	£ 0 4 0	100,000	Queensland	30, S. Swithin's in.
Crown Bayley's.....G	1 1/4 1 1/4	1 1/4 1 1/4	1 0	—	£ 0 10 0	85,000	Queensland	Bishopgate-st. E.C.
Cumbrind (New) G	2 1/4 2 1/4	2 1/4 3/4	1 0	2/6 Dec. '87	£ 0 19 0	184,000	Queensland	Blomfield House, E.C.
Day Dawn B. & W. G	9/6 10/6	6/6 10/6	1 0	—/6 Mar. '93	£ 1 0 0	498,400	Queensland	16, S. Helen's Place.
Day Dawn F. C. G	4/9 5/3	4/9 5/3	1 0	—/6 Apr. '82	£ 1 0 0	490,000	Queensland	Winchester Ho., E.C.
Eaglehawk.....G	2/9 3/3	3/3 3/3	1 0	—	£ 0 18 0	120,000	Victoria....	30-31, S. Swithin's in.
Emerald.....G	3 1/4 3 1/4	3 1/4 3 1/4	1 0	—	£ 1 0 0	55,000	W. Austral	4, Fenchurch-st.
Empress Coal. G	3 1/4 3 1/4	3 1/4 3 1/4	1 0	—	£ 0 10 0	90,000	Coolgardie	2, Tokenhouse Bldg.
Eng. & Aus. Cop. Cu	1 1/4 1 1/4	1 1/4 1 1/4	1 0	2 1/2 1883	£ 1 17 6	76,000	S. Austral.	136, Farnham-st. E.C.
Explorers Synd.G	1 1/4 1 1/4	1 1/4 1 1/4	1 0	—	£ 1 0 0	5,000	Coolgardie	Cophall House.
Florence.....G	1 1/4 1 1/4	1 1/4 1 1/4	1 0	—	£ 1 0 0	60,000	W. Austral	18, St. Swithin's in.
Glenrock.....G	2/ 2/6	2/ 2/6	1 0	—	£ 0 8 0	225,000	N. Zealand	3-5, Queen-st. E.C.
Gooldons.....G	1 1/4 1 1/4	1 1/4 1 1/4	1 0	—	£ 1 0 0	68,088	Murchison	Winchester House.
Golden Link.....G	1 1/4 1 1/4	1 1/4 1 1/4	1 0	—	£ 1 0 0	90,000	W. Austral	Dashwood House.
Do. Crown.....G	2 1/4 2 1/4	2 1/4 2 1/4	1 0	—	£ 1 0 0	100,000	W. Austral	54, Old Broad Street.
Do. Plum.....G	1 1/4 1 1/4	1 1/4 1 1/4	1 0	—	£ 1 0 0	120,000	W. Austral	4, Bishopgate-st. E.C.
Gold Estates.....G	1 1/4 1 1/4	1 1/4 1 1/4	1 0	3/ Sept. '95	£ 0 10 0	30,000	W. Austral	42, Gresham House.
Great Boulder.....G	1 1/4 1 1/4	1 1/4 1 1/4	1 0	2/- Aug. '95	£ 1 18 0	100,000	Yligion, S.	3, Gracechurch-st.
Great Coolgardie....G	1 1/4 1 1/4	1 1/4 1 1/4	1 0	—	£ 1 0 0	85,000	Coolgardie	3, Budge Row.
Great Galt. Rls.G	1 1/4 1 1/4	1 1/4 1 1/4	1 0	—	£ 1 0 0	175,000	Kuroalpi	Broad Street House.
Graham Synd.G	1 1/4 1 1/4	1 1/4 1 1/4	1 0	—	£ 1 0 0	50,000	W. Austral	13-14, Abchurch in.
Golden Gate.....G	1 1/4 1 1/4	1 1/4 1 1/4	1 0	—	£ 0 10 0	150,000	Queensland	9, Tokenhouse Yard.
Do. Horse Shoe.....G	1 1/4 1 1/4	1 1/4 1 1/4	1 0	—	£ 1 0 0	—	W. Austral	13, Helen's Place
Hampton Gold Hill	3/3 3/3	3/3 3/3	1 0	—	£ 0 8 0	—	W. Austral	—
Hampton Lands.....G	7 1/4 7 1/4	6 1/2 7 1/4	1 0	10/- Aug. '95	£ 5 16 0	—	Coolgardie	1, Whittington Ave.
Hampton Plains.....G	1 1/4 1 1/4	1 1/4 1 1/4	1 0	—	£ 1 0 0	30,000	Coolgardie	3, S. Swithin's in.
Hampton Plains Ex	17/ 18/	16/ 17/	1 0	—	£ 18 0 0	180,000	S. Austral.	Suffolk House, E.C.
Hannan's Brwn Hill	16/ 17/	9 1/2 6	1 0	—	£ 12 0 0	85,000	Coolgardie	Broad Street House.
Do. Main Reef.....G	1 1/4 1 1/4	1 1/4 1 1/4	1 0	—	£ 1 0 0	—	Coolgardie	—
Do. Oroya.....G	3 1/4 3 1/4	2 1/4 2 1/4	1 0	—	£ 1 0 0	—	E. Coolgardie	20, Bucklersbury.
Hannan's Star.....G	14/ 15/	14/ 15/	2/6	1/ Sept. '95	£ 0 2 0	250,000	Coromendi	Finbury House, E.C.
Hauraki.....G	7/ 8/	7/ 8/	1 0	—/2 Dec. '94	£ 0 5 0	143,439	W. Austral	Dashwood Ho., E.C.
Hauroi.....GS	7/ 8/	7/ 8/	1 0	—	£ 0 5 0	143,439	W. Austral	Cophall House.
Kaboonga.....G	2/8 3/3	2/9 3/3	10/	—	£ 0 9 0	249,250	Queensland	70-71, Bishopgate-st.
Kangarilla.....G	5/ 6/	5/ 6/	1 0	—	£ 0 10 0	87,338	S. Austral.	68, Coleman-street.
Kapanga.....G	13/6 14/6	14/ 15/	1 0	—/6 Jan. '91	£ 0 19 0	247,750	N. Zealand	9, New Broad-street.
Kinsella.....G	1 1/4 1 1/4	1 1/4 1 1/4	1 0	—	£ 1 0 0	80,000	Murchison	33, Broad-st. Avenue.
Kintore.....G	3 1/4 3 1/4	3 1/4 3 1/4	1 0	—	£ 1 0 0	50,000	W. Austral	3, Abchurch lane.
Kurnald.....G	3 1/4 3 1/4	3 1/4 3 1/4	1 0	—	£ 1 0 0	—	Coolgardie	Throgmorton House
Lady Loch.....G	1 1/4 1 1/4	1 1/4 1 1/4	1 0	—	£ 1 0 0	70,000	Coolgardie	9, Tokenhouse Yard.
Do. Mary Amalg.	2 1/4 2 1/4	2 1/4 2 1/4	1 0	—	£ 1 0 0	46,000	Murchison	Finbury House, E.C.
Do. Shenton.....G	1 1/4 1 1/4	1 1/4 1 1/4	1 0	—	£ 1 0 0	—	—	18, St. Swithin's in.
Lake View & Eldr	2 1/4 2 1/4	1 1/4 1 1/4	1 0	—	£ 1 0 0	—	—	—
Lindsay.....G	1 1/4 1 1/4	1 1/4 1 1/4	1 0	—	£ 1 0 0	85,000	Coolgardie	Cophall House
Londonderry.....G	1 1/4 1 1/4	1 1/4 1 1/4	1 0	—	£ 1 0 0	467,000	Coolgardie	3, Gracechurch-st.
L. & W. Aust. Expl.	6 1/2 6 1/2	5 1/2 6 1/2	1 0	70 p.s. Dec. '94	£ 1 0 0	100,000	W. Austral	Broad Street House.
Do. Founders.....G	200 210	180 180	100 0	—	£ 1 0 0	1,500	W. Austral	Broad Street Ho.
Lon. W. A. Invest.	2 1/4 2 1/4	2 1/4 2 1/4	1 0	—	£ 1 0 0	100,000	W. Austral	Broad Street House.
Do. Founders.....G	8 90	80 90	60 0	—	£ 0 20 0	—	W. Austral	Broad Street House.
Mainland Cons. G	2 1/4 2 1/4	2 1/4 2 1/4	1 0	—	£ 1 0 0	150,000	Murchison	34, Old Broad-st.
Mailina Gold.....G	1 1/4 1 1/4	1 1/4 1 1/4	1 0	—	£ 1 0 0	89,000	W. Austral	49, W. Geo. St., Glas
Mawson's Reward G	1 1/4 1 1/4	1 1/4 1 1/4	1 0	—	£ 1 0 0	60,000	W. Austral	28 & 29, S. Swithin's in.
Menzies Gold Est.	1 1/4 1 1/4	1 1/4 1 1/4	1 0	—	£ 1 0 0	175,000	W. Austral	Broad Street House.
Do. Gold Reef.....G	1 1/4 1 1/4	1 1/4 1 1/4	1 0	—	£ 1 0 0	—	W. Austral	2nd, Old Broad Street
Millar Day Dawn G	1 1/4 1 1/4	1 1/4 1 1/4	1 0	—/8 Aug. '98	£ 0 15 0	300,000	W. Austral	16, Tokenhouse Yard
Mosman.....G	5/ 6/	5/ 6/	1 0	—	£ 0 19 0	185,000	N. S. Wales	16, S. Helen's Place
Mount Morgan.....G	1 1/4 1 1/4	1 1/4 1 1/4	1 0	—	£ 1 0 0	—	W. Austral	16, S. Helen's Place
Mount Morgan G	1 1/4 1 1/4	1 1/4 1 1/4	1 0	—/8 Sept. '95	£ 0 17 0	1,000,000	Queensland	28, St. Swithin's in.
Murchison Gldt.....G	4/ 5/	4/ 5/	10/	—	£ 0 10 0	120,300	Murchison	9, Gracechurch-st.
Murchison Gldt.....G	10/ 11/	10/ 11/	10/	—	£ 0 10 0	400,000	Murchison	11, Q. Victoria-st. W.
M'rhobson N. Ch'm	1 1/4 1 1/4	1 1/4 1 1/4	1 0	—	£ 1 0 0	188,000	Murchison	21, Winchester House.
N. Australian G. F.	1 1/4 1 1/4	1 1/4 1 1/4	1 0	—/4 June, '98	£ 0 20 0	158,815	Queensland	27, College Hill.
New Queen.....G	10/ 11/	9/ 9/	10/	—/6 Aug. '95	£ 0 19 0	—	Queensland	7, Union Court.
North Boulder.....G	1 1/4 1 1/4	1 1/4 1 1/4	1 0	—	£ 1 0 0	—	W. Austral	30, St. Swithin's in.
North Coolgardie..G	1 1/4 1 1/4	1 1/4 1 1/4	1 0	—	£ 0 40 0	—	Pilbarra	18, Helen's Place
N. Qld. M. Agency	1 1/4 1 1/4	1 1/4 1 1/4	1 0	30% Aug. '95	£ 1 0 0	90,000	Queensland	216, Winchester Ho.
Pilbarra G. F.....G	1 1/4 1 1/4	1 1/4 1 1/4	1 0	—	£ 1 0 0	100,000	Queensland	10, New Broad Street
Queen's Bldy. Un.	13/ 14/	13/ 14/	—	—	£ 0 12 8	75,000	Victoria....	68, Coleman-street.
Ramage Syndicate	2 1/4 2 1/4	2 1/4 2 1/4	1 0	—	£ 1 0 0	50,000	W. Austral	33, Broad-st. Avenue.
Royal Oak.....G	3 1/4 3 1/4	3 1/4 3 1/4	1 0	—	£ 0 20 0	200,000	N. Zealand	3, Abchurch lane.
Royal Sovereign....G	1 1/4 1 1/4	1 1/4 1 1/4	1 0	—	£ 1 0 0	85,000	Coolgardie	Throgmorton House
Do. Do.....G	1 1/4 1 1/4	1 1/4 1 1/4	1 0	—	£ 1 0 0	—	—	—
Sam's With. of Nat.	5/9 6/3	5/9 6/3	1 0	—	£ 0 18 0	200,000	W. Austral	9, Tokenhouse Yard.
Scottish Australian	1 1/4 1 1/4	1 1/4 1 1/4	1 0	—/3 Aug. '95	£ 1 0 0	200,000	N. S. Wales	Finbury House, E.C.
Scotty's Hauraki....G	4/ 4/6	4/ 4/6	8/	—	£ 0 20 0	400,000	N. Zealand	5, Drapers-garage
So. Londonderry....G	7/8 8/6	7/6 8/6	1 0	—	£ 0 19 0	200,300	Cool. W. A.	20, Bucklersbury.
True Prop. of W. A	3 1/4 3 1/4	3 1/4 3 1/4	1 0	—	£ 1 0 0	250,000	W. Austral	33, Old Broad Street.
Town Blue.....G	1 1/4 1 1/4	1 1/4 1 1/4	1 0	—	£ 1 0 0	—	—	Winchester Ho.
Victoria Associates.	6/8 7/8	6/8 7/8	5/	—/3 Sept. '95	£ 0 5 0	144,000	Chr. Tow.	8, Crosby-square
Victoria.....G	6/8 7/8	6/8 7/8	5/	—/3 Mar. '94	£ 0 5 0	40,000	Queensland	34, Gresham-st. E.C.
Walsh.....G	7 1/4 7 1/4	6 1/2 7 1/4	5/	2/- Sept. '95	£ 1 0 0	183,000	N. Zealand	11, Abchurch-lane.
Waitekauri.....G	4 1/2 5	5 5 1/2	10/	—	£ 1 0 0	136,000	N. Zealand	11, Abchurch-lane.
Do. Extended.....G	1 1/4 1 1/4	1 1/4 1						

AFRICAN MINES—(Continued)

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Reports from the Mines—Continued.

BAYLEY'S REWARD.—Mining report, dated Coolgardie, July 22:—Sylvester shaft, South drive at the 380 feet level has, during the week, been extended 18 feet, full length being at present 92 feet from the crosscut. There is no change to report, the wall still continuing its usual course.—100 feet level. North stope at this level shows no particular change, the lode being from 4 to 5 feet wide, solid and compact, from which a large quantity of stone has been raised. Assay value this week, 17 dwts. per ton.—South stope. In the south stope the lode still averages 4 feet of solid stone, assay value being very much better, 1 ounce 3 dwts. per ton.—Gordon shaft. South drive at the 50 feet level extended 6 feet, total 190 feet from shaft. Has since last report made a little stone, the reef making again to 12 inches thick, value being 16 dwts. per ton.—South stope continues to yield a fair quantity of stone previously left, giving an average value of 13 dwts. per ton.—North stope. The north stope at the same level continues 3 feet wide, this week improving in value, being 19 dwts. per ton.—Air shaft. North stope lode will average 3 feet wide of the same character as formerly, having a favourable appearance, but this week low in value, being only 7 dwts. per ton, but will probably again improve as continued.—South stope. South stope, the reef continues from 18 inches to 2 feet wide, but value according to assay being low, 9 dwts. per ton. In this stope similar to the north, we, in the past, have frequently had rich deposits which, by continuing, we hope to obtain again, the changes taking place very suddenly.—Tramway. The tramway from Sylvester shaft to the battery is now completed, and the stone hauled from the shaft and trucked straight to the battery, which will in the future save expense.—Machinery. The foundations for the oil engine are completed, and the engine will be placed in position during the coming week. This would have been completed sooner, but for the difficulty in obtaining the necessary material, which caused considerable delay.—Tailings-pits. The necessary timber for the construction of the new tailings-pits is being brought on the mine, and the work of cutting out, and fitting the different portions together has been commenced to-day. This will be all completed, and fitted on the surface previous to the battery being stopped to make the necessary excavation. By this means we hope to have as little delay as possible in the crushing after everything is prepared, construct the pits, and connect the oil engine the same time. Probably crushing will be continued for another fortnight previous to the stoppage of the battery.—Assay office. The framework of the assay office has been erected, but will now be allowed to remain until the other work is completed, when it will be at once finished, as it is required very much.—New work. By looking at the plan of the underground working (Sylvester shaft) you will notice there is a short intermediate drive driven south from the continuation of Gordon shaft between the 100 and 165 feet levels. This portion from the intermediate to the 100 feet level we intend to take out, which is directly underneath where the rich shoot came down from above, and possibly more of it may be remaining, although we saw nothing of any importance in driving the short intermediate.—Stone treated. During the fortnight we have had a fair supply of water both for the boilers and battery, and have crushed 392 tons of stone taken from the various stopes, with a small quantity from the ore dump.—Gordon and Sylvester shaft. The return, I regret to say, has been very poor indeed, only yielding 275 ounces of retorted gold. All the stopes for this fortnight have looked very poor, but very little or no gold of any consequence seen in breaking, and the assays, as you will have observed last week, being very low indeed. This week they are slightly better, and I hope will result in the coming fortnight's return being better and more satisfactory.—(Signed) W. H. Matthews.

BLAGROVE'S FREEHOLD.—W. H. Argall, July 29: I beg to hand you report of work done for the four weeks ending 27th inst.:—During the month the smith has been employed making bolts, stamps, &c., for the poppet-legs, also doing other work as required. The carpenters have completed poppet-legs, which are now ready to raise and place in position over the shaft. They have also been engaged about other necessary work. Two men have been excavating ground, and when wanted assisting the carpenter to shift about the heavy timbers. Two other men extended the adit level 184 feet, and holed to the shaft. They are now cutting out ground for chamber, and timbering the same. The machinery has arrived in Auckland per s.s. *Mamari*, and has been transhipped for this place, so we expect same to arrive in the course of a day or so. Owing to the very heavy rains of late the road is almost impassable, but the County Council are repairing the worst parts, so I am hoping we shall be able to get the machinery over quickly. Everything is being pushed on as fast as circumstances will permit.

BRITISH BROKEN HILL PROPRIETARY.—Mining manager's report for the week ending July 31:—Blackwood (No. 1) shaft. 300 feet level. Station plat on west side of shaft will be completed in a few days; crosscutting westwards will then be commenced. 200 feet level. South west drive from winze in No. 1 west crosscut was advanced 6 feet through fair grade sulphides, making total length 55 feet. We broke 26 tons sulphide ore average 20 per cent. lead, 17½ ounces silver per ton, and 22 per cent. zinc. North drive from winze in western extension was driven 6 feet and stopped as face encountered hard lode material of no value. We then started a south drive from west crosscut at point about 15 feet in from winze, and have extended same a distance of 21 feet through carbonate ore carrying a good proportion of kaolin. At this point we broke into a large vein and we are now prospecting around same. We mined 32 tons carbonate average 25 per cent. lead and 22 ounces silver per ton. Winze in long crosscut from western extension was sunk 5 feet, total 14 feet, have fixed up a windlass here.—Howell (No. 2) shaft. 300 feet level; West crosscut from Plat extended 4 feet, making total distance 89 feet; face unchanged, 270 feet level. East crosscut from far north winze was lengthened 27 feet, total length 87 feet, and stopped for present. We are now starting off southwards at point about 15 feet back from present face of crosscut in splendid sulphide ore. We mined 20 tons sulphide ore, averaging 40 per cent. lead 10 ounces silver per ton and 16 per cent. zinc.—Marsh (No. 6) shaft. 2nd level. Winze stopes down west crosscut have yielded usual quantity of carbonate ore, 61 tons being broken averaging 21 per cent. lead and 39 ounces silver per ton. We are rising up on footwall in end of east crosscut from these stopes. Junction 300 level. During the week we have been putting in timbers in drive and have also risen upwards on footwall a distance of 11 feet through good grade sulphide ore. We broke 28 tons averaging 35 per cent. lead 22 per cent. zinc and 31 ounces silver per ton.—Ore shipments. We forwarded 127 tons 7 dwts. 3 grs (gross) first-class carbonates from Marsh (No. 6) shaft to block 14 works, Port Adelaide, during the week. The following has been agreed from previous shipments sent to Port Adelaide—viz., 151½ tons (net), containing 35½ tons lead and 8512 ounces silver. Week's assays: Carbonates, 12 to 34½ per cent. lead, 147 to 862 ounces silver per ton; sulphides, 14 to 40 per cent. lead, 162 to 255 per cent. zinc, and 104 to 39 ounces silver per ton.

CRESCENT GOLD.—Superintendent's report for fortnight ending August 5: Crescent Mine, South tunnel, towards main shoot, advanced 33 feet, total 108 feet. Passed through a well-defined quartz lode, carrying a high percentage of pyrites, but no gold at point of intersection. This lode should be further developed later on. Drive north of shallow tunnel towards north shoot advanced 42 feet, total 107 feet. Lode continues well defined, and a few colours of gold are now being won. The auriferous shoot should be reached in a few days. Drive south of old tunnel (Richardson's) advanced 37 feet, total 107 feet; ground soft and carrying colours of gold. This drive is being extended towards south shoot, which should soon be reached.—Orlando Mine. Tunnel extended 18 feet, total 28 feet; ground favourable for driving.—New mill. The necessary plans and specifications for new mill, tramways, race, &c., have been prepared, and tenders for the supply and construction of same are now being invited.

GEORGE GOCH AMALGAMATED.—From the report for the month of July: Mine. Number of feet driven, sunk and risen, 917 feet 9 inches; quartz mined, 9336 tons; quartz developed in exposure of that mined, 3152 tons.—MILL. Number of days working (60 stamps), 27 days 17 hours; number of tons crushed, 8440 tons; yield in smelted gold, 1896 ounces 13 dwts.; yield per ton, 5.50 dwts.

—Cyanide works. Number of tons of tailings treated, 4840 tons; yield in smelted gold, 1227 ounces 14 dwts.; yield per ton, 5.07 dwts.—Working cost. Mining (including maintenance), 10s. 10.74d. per ton; milling (including maintenance), 3s. 8.87d. per ton; general charges, 1s. 4.11d. per ton; mine development redemption, 5s. per ton; total, £1 0s. 11.42d. per ton; value of yield, £1 0s. 0.98d. per ton; balance, 10.44d. per ton; cyanide working (including maintenance), 4s. 10.47d. per ton; value of yield, 15s. 2.63d. per ton; profit, 10s. 4.16d. per ton.

HAURAKI GOLD.—Francis Hodges, August 5: I beg to hand you the following report for the month ending 27th ult.: 160 feet level. No. 2 reef north was driven 41 feet; the reef in the end is now about 8 inches wide. The footwall part is showing colours of gold. The value of the reef throughout our drive this month has not come up to our expectations, as we advance northwards, however, I hope it will improve. No. 3 reef north was driven 33 feet, total driven 45 feet; in this drive two small fissures were cut through, that yielded several stones of specimens. The No. 3 itself produced a little gold at the junction of the fissure, but the reef after getting through them some few feet declined in value; the country rock now in the forebreast is somewhat changed, and there is a probability of the reef improving as we advance northwards. We have started to drive easterly at this level (160) to prove any reef in that direction, and to initiate the working of Iona and John Bull, licensed holdings acquired by the company; this point is very important, being in line of the richest of the belt, producing the gold in the opposite direction in No. 2 and No. 3. We have started rising in the specimen fissure, passed this, in crosscutting in our 160 feet level crosscut close No. 3. The vein about 3 inches wide is yielding occasional visible gold. The 160 feet level crosscut is now again resumed and going forward in a congeal class rock. We have started the 160 southerly in the No. 2 reef. The strike of the reef here is in line to go through John Bull licensed holding. The lode is about 12 inches wide, and yielding occasional colours of gold.—100 feet level. We have resumed driving the 100 feet level north on No. 2 reef; the part of reef taken down a few days ago yielded some good stamping ore, and occasional strong blotches of gold. We intend crosscutting westerly to prove if another part of the reef is going in that direction just a few feet behind our forebreast No. 2 and No. 3 come together, so that it will be necessary also to crosscut easterly at this point to prove these reefs. The stopes in the back of the 100 feet level for a considerable length northwards of the tributary working (Legge and Co.) is pinched up to a seam unless the reef widens out shortly. I purpose putting up a trial rise to open out a trial level therefrom. We have only a small section to stop here to connect Legge's workings. The 100 feet level crosscut was advanced 3 feet and suspended. We have placed the men from crosscut to drive on No. 1 reef. This will lead up to intersect Nos. 5 and 6 reefs at Ross's winze, and prove the shoots of gold gone below the tributary workings. We have started driving on New Year's reef, running nearly parallel with No. 2 in the 100 feet level. The reef is 2 feet wide, and producing stray blotches of gold. This reef ought to open up valuable discoveries as we go north. The adit level has been timbered and put into good repair this month.—Iona section. A winze is being sunk about 300 feet east of our Hauraki main shaft, now down 14 feet. This is a new winze with plot cut all round, and timbered up minerlike to go down as far as water will allow until our 160 crosscut drains it. The reef is small, but colours of gold have been met, which I hope will lead to rich discoveries lower down.—Surface work. Considerable surface work has been carried out this past month, viz., clearing ground for stooking tailings, making slime-pits, coal tramway, taking out ground for engine pool, &c. The mine, on the whole, is not looking quite so well, and our returns will decrease somewhat unless some improvements take place. The winzes with the bottom levels No. 2 and No. 3, and also the specimen veins cross fissures, promised well in the commencement of the month, but very disappointing this past two weeks. We stamped for the month 142 tons of quartz, and crushed 1299 lbs. of specimens, which yielded 3209 ounces of melted gold bullion, which gives a profit about £9000. I fully anticipated our profits would have been more, but the specimens were not so rich as hitherto. The mine is now working fairly extensive and stamps and all going in regular order, and several places now at work may improve at any time during the month, and enable us to keep up our returns, which I hope they will.

KOMATA REEFS.—W. H. Argall, August 7: Report for work done during the past month: Komata reef. Before commencing to drive on this reef, the timber had to be cut and debris cleared away from the surface. The reef was stripped and broken for 15 feet in length, showing very promising-looking quartz, containing strong colours of gold by dish washing. At this point the reef narrowed to 2 feet, but this, we believe, to be only temporary. The prospects certainly improved as the reef was developed. We shall now be able to put on three shifts, and so push the work much faster.—Crosscut to intersect the Black reef. Before really starting the crosscut we were obliged to blast away the rock for 35 feet long and 5 feet high. This work was greatly retarded owing to the heavy rains, but now that the level is formed the work will be pushed by putting on more men. The carpenters are making tracks and laying road for same direct to the quartz paddock. A sawpit has been built, and sawyers engaged in cutting kaori trees into suitable lengths for building purposes; they have also split 4500 shingles and planed 2000 feet of boards. Excavations for the houses are finished, and the carpenters have now commenced to build same. A lot of other preliminary work has been done also. The surveyors have been engaged about the levels for the water race and machine site, and also laying out for road to bring in the machinery. The battery has been removed from the *Plutus*, and will be forwarded to the Thames as soon as possible by a crew.

KAPANGA.—W. H. Argall, July 29: I beg to hand you the following report for the four weeks ending 27th inst.:—The rise above the 800 crosscut on the reef is up 22 feet. The bearing of the reef is about north and south dipping to the west, and about 2 feet wide, carrying gold bearing quartz, but not of a payable nature. A sample of quartz, very highly pyritous, gave the following result:—Billion, 3 ounces 13 dwts. 11 grains per ton; gold, 2 ounces 10 dwts. 15 grains per ton; silver, 1 ounce 2 dwts. 20 grains per ton. The distance from the shaft to this reef is 535 feet; it may probably be the Kapanga reef; at the present moment it looks very promising indeed, and highly mineralised. Eight men have been employed about the above work. The rise above Scotty's flat sheet at the 420 feet level has been extended 18 feet by four men, making total of 130 feet. During the rising we encountered coarse colours of gold in the reef, which looks very well. We hope to commence driving south from the top of rise shortly to communicate to the intermediate proper. When this is effected a large block of ground will be available for stoping. About 20 feet from the bottom of rise we have driven north about 20 feet, where we obtained some good quality quartz in small quantities. The reef at this point is 9 inches in width, and well defined. We also stoned north of rise about 60 feet from the bottom, where colours of gold were also seen, and very probably from indications we are nearing a patch. Farther south the reef above the 420 feet level on Scotty's show gold occasionally. We have also done some prospecting in the back of the level, but as yet nothing of importance has been obtained. The rise above Blithe's level on Scotty's reef has been put up 29 feet, and holed to the intermediate proper from whence we have started a crosscut west to cut the hanging-wall branch. The country rock is mineralised, and there is every reason to believe that where the branch is intersected it will be productive of gold. The stope from Gunn's rise above the 300 feet level on Scotty's reef has turned out exceedingly well having produced specimens. The reef averages 10 inches wide, composed of very hard quartz, showing gold freely. The indications are good in every way, and seeing there is a large block to operate on we naturally may expect in the future good results. This is a most important point. Barrett's rise above the 300 feet level has been put up also another 10 feet. Two stopes are working on the reef north and south, gold showing on both front and hanging wall. The reef looks very promising, and is about 20 inches in width. This also is another important point, especially as we believe the

block to be intact to the surface. Stoping above the little intermediate level (above 420) on the Kapanga reef has proved productive during the month. Reef at present is 8 inches wide, full of iron and arsenical pyrites.—New works. We have put in a drive from near the bed of the creek and intersected Scotty's reef, varying in thickness from 6 inches to 18 inches showing at intervals a little gold. A shaft has also been sunk 35 feet with the object of striking Scotty's reef, and when about 60 feet down to crosscut under the creek, but I am greatly afraid the winter will prove too much for us. Another drive is being constructed to intersect the cross reef and is on about 20 feet. The machinery throughout the mine is working well. We have crushed for the month 50 tons of ore and treated 430 lbs. weight of picked stone which yielded, after being melted, 437 ounces 14 dwts. of gold.

MOUNT LYELL.—Copy of mine manager's report for week ending July 17:—Surface prospecting shaft, hanging-wall. The cutting down and straightening of the underlie has been completed and sinking resumed. No. 1 crosscut north drive, No. 3 tunnel. The crosscut has been driven 2 feet, still in average pyrites. No. 2 crosscut north drive, No. 3 tunnel. The crosscut has been driven 2 feet, total, 18 feet 6 inches; there is no change. South drive No. 3 tunnel. The drive has been advanced 7 feet, total 392 feet. North drive Indicator winze. The face has been advanced 7 feet, total 43 feet, country schist rock. North drive No. 4 tunnel. The contractors have driven 18 inches, total 180 feet 6 inches, ground unchanged. South drive No. 4 tunnel. The drive has been advanced 10 feet, total 181 feet, country ironstone and conglomerate. No. 2 winze south drive 50 feet level engine shaft No. 4 tunnel. The winze has been sunk 3 feet, total 15 feet, still sinking in good copper ore. Engine shaft No. 4 tunnel. This shaft was holed through to No. 5 tunnel early in the week; the men are now engaged in cutting the shaft down preparatory to putting in frame set for chamber. No. 5 tunnel. A contract has been let for extending this tunnel 25 feet. Work was resumed on Monday. Country in the face very hard. Progress report for week ending July 17.—Haulage line, bank engine. Main erection completed, and fixing sheaves, rollers, and steam connections. Expect to lay cable and make trial run next week. Commenced grading from West Lyell shaft towards No. 4 tunnel. Smelter site. Masons and bricklayers commenced work on retaining wall. Chutes for materials and water pipes completed. Shoot piling commenced, siding in progress.—Converter site. Excavation in progress.—Brick plant. New boiler bricked in. Alterations and additions to drying and burning kilns in fuller progress. Sawmill, limekiln, and brick plant running full time. Weather, very broken and wet.

MYMORE WEST AND MYMORE WYNNAAD CONSOLIDATED.—Tank block. The mining manager reports by mail for the half-month ended August 15 as follows:—South shaft. The new plunger bottom has been lowered into position, and we are now lining up rods.—450 level north drive is 304 feet 6 inches, making progress for half month of 30 feet. The quartz still keeps about 3 feet wide, and worth 3 dwts. We expect this point to improve shortly.—450 level. No. 2 rise was started 96 feet on from No. 1 rise, and has been carried up 14 feet 6 inches; progress 14 feet 6 inches. At first the quartz was wide and rather poor, but now the lode has narrowed down to 18 inches, worth 2 ounces per ton. This is a noticeable improvement. Intermediate level north was extended to 67 feet 6 inches; progress 11 feet 6 inches. The ground is very hard here. The quartz is 2 feet wide, and worth 12 dwts. per ton. Intermediate level south rise risen to 51 feet 6 inches; progress 7 feet. The quartz narrowed down, so this rise has been stopped, for the meantime the shift going on to the pitwork.—The mill. The cam shaft broke on 11th inst., stopping the mill entirely. We are having a new one turned and fitted in Madras, and expect it up in a few days. The mill has run seven days this month for 48 ounces of bar gold. Mill spars are on their way out, and should arrive soon.

MAY CONSOLIDATED.—The following is the report for the month of July: Battery. 80 stamps ran 294 days, crushed 10,500 tons. Gold won 3566.53 ounces (average 6.793 dwts. per ton) valued at 72s. 6d. per ounce, £12,928 13s. 5d.—Cyanide works. McArthur Forrest process. 6555 tons tailings treated, gold won 1325.88 ounces (average 4.045 dwts. per ton) valued at 60s. per ounce £3977 12s. 9d.—Siemens process. 5400 tons tailings treated, gold won 1133 ounces equal to (say) 938.87 ounces fine gold (average 3.477 dwts. per ton) at 80s. per ounce, £3755 9s. 7d. Other receipts £41. Total, £20,702 15s. 9d.—Working costs. Mining, 10,500 tons, cost £6663 13s. 3d., equals 12s. 8.312d. per ton; development 10,500 tons, cost £1153 18s. 1d., equals 2s. 2.375d. per ton; total £7817 11s. 4d., equals 14s. 10.687d. per ton. Trammings 10,500 tons, cost £270 17s. 9d., equals 6.191d. per ton; crushing and sorting 10,500 tons, cost £289 18s. 2d., equals 6.626d. per ton; milling 10,500 tons, cost £2395 4s. 3d., equals 4s. 6.770d. per ton; total £10,774 11s. 6d., equals 20s. 6.274d. per ton.—Tailings treatment. McArthur-Forrest process 6555 tons, cost £1666 12s. 9d., equals 5s. 1.021d. per ton; Siemens process 5400 tons, cost £2756 8s. 3d., equals 2s. 9.618d. per ton; total £13,197 12s. 6d.; profit £7505 3s. 3d.—Expenditure on capital account. Construction, &c., £3161 19s. 10d.; excess development £305 14s. 5d.—£3467 14s. 3d.

NEW SPES BONA.—The London agents announce receipt of the following report:—During the week ending August 12 development amounted to 138 feet. Assays from Main reef leader have gone as high as 2 ounces 3 dwts. per ton, width of reef ranging from 8 inches to 3 feet. Compressor plant is about completed. Driving has been started on fourth level. All work is going on most satisfactorily.

PRINCE'S ESTATE.—The following is from the report on the company's operations for the month of July:—Mine. Number of feet sunk and driven 706 feet.—MILL. Number of days (24 hours) working 30 stamps 28 5.6 days, ore milled 2812 tons, yield in smelted gold 1351.20 ounces, average per ton 9.61 ounces.—Cyanide works. Tons of tailings treated 3379 tons, yield (in bullion of 60s. value) 754.30 ounces.—Working costs per ton. Mining and trammings on 2812 tons 20s. 2.21, reduction on 2812 tons 4s. 5d., maintenance on 2812 tons 2s. 0.81, general charges on 2812 tons 2s. 7.6d., equals 29s. 3.6d.; mine development redemption on 2812 tons 8s. 4d., cyanide works on 3379 tons 5s. 3.3d., total 42s. 10.9d. The operations at the cyanide works are continuing to show an improvement due to the enlarging of the plant. During the latter half of the month Scotty's litten have been put into work, and still better returns may be looked forward to from this department. The development of the lower levels continues to open up rock of improved grade. The new surface works are making very good progress, and the new 30 stamps mill of heavy type may be expected to start by the middle of October.

TRANSVAAL GOLD, EXPLORATION, AND LAND.—General summary of mining operations for July:—Beta. Drive 180 feet on deposit, averaging 7 inches in thickness. Ore extracted 448 tons, average assay value 1 ounce 4 dwts. per ton.—Theta. Drive in underground workings 341 feet, the average thickness of the deposit being 4 feet 6 inches. Ore extracted 237 tons, average assay value 3 ounces 9 dwts. per ton. In drive B the deposit had increased in thickness from 12 inches to 10 feet, and of first-class quality. 9768 cubic yards of overburden were removed during the month.—Iota. Drive 147 feet on deposit, averaging 13 inches in thickness.—Nu. Ore extracted 112 tons, average assay value 3 ounces 2 dwts. per ton, from deposit averaging 21 inches in thickness.—Chi. Drive 539 feet on deposit, averaging 20 inches in thickness. Ore extracted 1658 tons, average assay value 1 ounce 8 dwts. per ton.—Prospecting. In the vicinity of the Theta-Kanels tramway tunnel the deposit had been found 12 inches thick and had every appearance of being the Theta reef. Total drive for month 1625 feet. Ore extracted 2455 tons, average assay value 1 ounce 11 dwts. per ton; while the deposit averaged 1 foot 8½ inches in thickness.

WESTWORTH EXTENSION.—Report dated August 3: Main shaft, Carrols No. 2, total depth 97 feet, progress for the week 2 feet; timbering of the shaft has delayed sinking. The shaft continues in diorite formation.

D'ARCY ESTATES.—Report dated August 3: Main shaft, total depth 478 feet, progress for the week 6 feet; a few seams of lime making in the diorite formation.

BALAGHAT-MYSORE.—Jos. Pryor, August 20: Ogle's shaft. The 270 feet level south of the east crosscut has been driven 22 feet, or 137 feet from the crosscut. The lode still produces quartz varying in width from 1 foot to 7 inches, but this week its assay value is not as good as usual, it being only 20 grains per ton.—Tennant's shaft. This shaft has been sunk 16 feet 6 inches, or 67 feet 6 inches below the 600 feet level; the general character of the lode still continues of a promising appearance; it now carries a little quartz which assays 1 dwt. per ton. The 500 feet level north has been advanced 8 feet 9 inches, or 270 feet 9 inches from the shaft; here the ground became unproductive, and thinking a part of the lode had gone off in the foot, we crosscutted east 19 feet and intersected a small branch of quartz on which we have since driven 3 feet 6 inches; the present branch is of a kindly appearance; we, therefore, purpose driving a little further on its course to see whether it will improve as we extend northward. The crosscut west at the 420 feet level north has been advanced 11 feet, or 88 feet from the level. Not meeting with anything of value we have suspended it for the time being, and have brought the men back 38 feet from the present end to drive north on a branch intersected at this point, and have driven 9 feet on it; as yet it continues small and not of much value, but from the general indications we think it will soon improve, but if not we shall again resume the extension of the crosscut westward.—Surface. The various excavations for the new cyanide works have been completed, and we are now pushing on as fast as possible with the necessary masonry.

CHIAPAS.—Mine report for fortnight ending July 31: Providencia Aver driven 14 feet, total 350 feet. Shown traces of ore. Assay 12 grains gold, 1 ounce 9 dwts, 12 grains silver, 0.72 per cent. copper. Providencia Aver rise No. 2 risen 6 feet, total 48 feet. Running very flat, assays 3 dwts. gold, 2 ounces 19 dwts, silver, and 0.81 per cent. copper. Santa Fé hill No. 3 driven 5 feet 6 inches, total 104 feet 6 inches. No change. Pine contact driven 14 feet, total 37 feet. Sylva contact driven 25 feet, total 47 feet. Both these last two drifts continue to show strong traces of ore. Taylor main extension driven 3 feet, total 649 feet. Decided traces of gold, and 4 dwts. silver. San Juan crosscut driven 8 feet, total 38 feet, assays 2 dwts. gold, 17 ounces 15 dwts. silver, and 5.77 per cent. of copper in face drift. Assays in bottom of drift 1 ounce 1 dwt. gold, 57 ounces 15 dwts. silver, 24.56 per cent. copper. This last sample is probably a little higher than average stone in bottom of drift, but of late we have had a great improvement in this unexplored part of the mine, and our intention is to sink here shortly, and follow down as water is pumped out. We have still a large body of water to get under with present appliances, and until this is got under, we are much at a standstill in opening out in depth. Water is going down at about 12 inches per week.—Extraction. Santa Fé hill. Extracted 45 tons, assays 19 dwts. gold, 6 ounces 17 dwts. silver, 3.39 per cent. copper.—Santa Fé stopes east. Extracted 279 tons. Assays 17 dwts. gold, 5 ounces 1 dwt. silver, and 2.96 per cent. copper.—Taylor No. 3. Extracted 67 tons, assays 9 dwts. gold, 7 ounces 10 dwts. silver, and 2.94 per cent. copper.—Old Providencia. Extracted 387 tons, assays 1 ounce 1 dwt. 12 grains gold, 11 ounces 12 dwts. 3 grains silver, and 5.32 per cent. copper. From the above you will perceive San Juan crosscut shows an excellent prospect. If it will continue to improve as it has been doing we may hope gold contents will also improve.

LA YESCA.—The mine manager reports, under date August 14, as follows:—San Miguel, lode No. 1. Drive 2.91 metres, total length 7.24 metres. Both foot and hanging walls well defined. Streaks of quartz forming in breast.—Lode No. 2. Drive 4.30 metres, total length 15.30 metres.—Crosscut on lode No. 2. Drive 1.84 metre, total length 15.80 metres. Ground very hard. Quartz stringer still continues.—El Progreso. New body of ore, near Despacho, over 6 feet in width. Scattered through this ore body are almandras (almonds) varying from small points to 10 inches in diameter. An assay of one of these gave 384 ounces per ton. Selecting a line across entire width in which none of these almandras were visible I took a sample of about 200 lbs. Thoroughly mixing and quartering this sample I got 27 ounces per ton. Turning it over to the ore sorters to be cleaned as for milling I got 46 ounces ore, with 1-10 ounce gold. In no case is the value liable to go below 50 ounces. In this week have five pares on this body (three pares in the day and two pares in the night) raising and drifting, and am taking out 3 tons of dressed ore in 24 hours. By Monday next expect to have room for another pare. As soon as breast is sufficiently advanced will also commence sinking.—El Olvido. Run of waste from old workings which cleans up to 30 ounces ore. Will pay to mill. The following cable has been received:—"69 tons milled yielded 1250 ounces silver 60 per cent." The directors anticipate that the mill will now continue running, and that the returns will be considerably increased from the developments mentioned above, and those previously reported.

LOMA GOLD.—The mine superintendent writes under date July 21 as follows:—Washing was continued in the Tabasco Mine till June 17, when we started cleaning down, and on the 22nd we cleaned up 70.30 ounces of gold. On the 23rd ult. we started making a new opening in the Soto Mine, and we have now a good face of gravel before us. The reservoir is now completed and in use, the ditches and syphons are giving no trouble, but our water supply has decreased considerably owing to the very dry weather. If we had not had the reservoir finished by the time the dry season set in we should not be able to work the mine at all, as there is hardly any water anywhere; it has not been so dry here for eight years. Some money has had to be spent in filling in the front of the tank, but this month we have no men at work there. The large sum of money laid out on this work ought to be the means of bringing in some good returns to the company.

MYSOORE REEFS (Kangundy).—Fortnightly report of Captain M. Scantlebury, dated August 26: Underlie shaft. This shaft has been sunk 9 feet, now 103 feet 6 inches below the 325 feet level. The quartz is 2 feet wide, assaying 1 ounce 18 dwts. of gold to the ton. On the 18th we suspended sinking for the time, and commenced driving at the 425 feet level. The 425 feet level north has been extended 2 feet 6 inches. The quartz is 2 feet wide, and worth 2 ounces of gold to the ton. The 425 feet level south has been extended 2 feet 3 inches. The quartz is 1 foot 9 inches wide, and worth 1 ounce 15 dwts. of gold to the ton. Winze below the 325 feet level north has been sunk 5 feet, now 53 feet below the level. The quartz is 3 feet wide, assaying 3 ounces of gold to the ton.—Stopes in bottom 325 feet level north. The quartz shows an average width of 18 inches, and is worth 1½ ounce of gold to the ton. 325 feet level north has been advanced 25 feet, now 218 feet from shaft. The quartz is 1 foot wide, assaying 6 dwts. of gold to the ton.—Vertical shaft. The winze below the 260 feet level north has been sunk 5 feet, now 39 feet 6 inches below the level. The lode is 6 feet wide, and worth 1½ ounce of gold to the ton. Rise above the 260 feet level north has been put up 5 feet 6 inches, now 12 feet 6 inches above the level. The quartz is 2 feet wide, assaying 6 dwts. of gold to the ton. Winze below 200 feet level north has been sunk 3 feet, now 46 feet 6 inches below the level. The quartz is 2 feet wide, assaying 6 dwts. 12 grains of gold to the ton.

MYSOORE GOLD.—R. Hancock, August 20: Mining operations for the fortnight ending August 19. Rowe's shaft, 1460 feet level south of crosscut west. The rise in the back of this level has been put up 16 feet, making a total height of 45 feet. The lode is 2 feet wide, assaying 1 ounce 4 dwts. 19 grains.—1460 feet level north of sump winze. This level has been driven 19 feet, making a total distance driven of 346 feet. The lode is 4 feet wide, assaying 1 ounce 2 dwts. 4 grains. The rise in the back of this level has been put up 13 feet, making a total height of 16 feet. The lode is 4 feet wide, assaying 10 dwts. 10 grains.—1460 feet level south of sump winze. Driving south from the bottom of the south winze driven 17 feet, making a total distance driven of 137 feet. There is nothing here to report.—1360 feet level south of crosscut. There are two stopes in the back of this level, the average width of the lode being 1 foot 6 inches, giving an average assay of 11 dwts. 9 grains.—1360 feet level north of crosscut. The winze in the bottom of this level has been sunk 11 feet, making a total depth of 41 feet. The lode is 1 foot 6 inches wide, assaying 1 dwt. 23 grains. The lode in the stope in the back of this level is 2 feet wide, assaying 1 dwt. 7 grains.—1360 feet level north of sump winze. This level has been driven 15

feet, making a total distance driven of 198 feet. There is nothing here to report.—1360 feet level south of sump winze. The rise in the back of this level has been put up 15 feet, making a total height of 19 feet. The lode is 3 feet wide, assaying 13 dwts. 1 grain.—1260 feet level north, north-east. This level has been driven 14 feet, making a total distance driven of 846 feet. There are nine stopes in this level, the average width of the lode being 3 feet 5 inches, giving an average assay of 13 dwts. 5 grains. Driving south on the fold from the top of the sump winze driven 9 feet, making a total distance driven of 70 feet. We have suspended the driving of this, and have put the machine to resume the driving of the 1160 feet level north of Rowe's.—1260 feet level south. This level has been driven 25 feet, making a total distance driven of 173 feet 10 inches. The lode is 1 foot 6 inches wide, assaying 7 dwts. 3 grains. There are two stopes in the back of this level, the average width of the lode being 3 feet, giving an average assay of 13 dwts.—1160 feet level north, north-east. This level has been driven 9 feet, making a total distance driven of 585 feet 6 inches.—1160 feet level south. This level has been driven 13 feet 6 inches, making a total distance driven of 528 feet. The lode is 3 feet 6 inches wide, assaying 4 dwts. 13 grains. The rise in the back of this level has been put up 15 feet, making a total height of 18 feet. The lode is 1 foot 6 inches wide, assaying 1 ounce 15 dwts. 6 grains. There are two stopes in this level, the average width of the lode being 1 foot 9 inches, giving an average assay of 1 ounce 3 dwts. 8 grains.—North of the crosscut east. This end has been driven 1 foot 4 inches, making a total distance driven of 112 feet 4 inches. The lode is 6 inches wide, assaying 16 dwts. 22 grains. The lode in the stope in the back of this level is 2 feet 6 inches wide, assaying 1 ounce 7 dwts. 10 grains.—South of the crosscut east. This end has been driven 1 foot, making a total distance driven of 84 feet 6 inches. The lode is 4 inches wide, assaying 4 dwts. 13 grains.—1060 feet level north-east. This level has been driven 4 feet 3 inches, making a total distance driven of 700 feet.—1060 feet level north, north of No. 2 crosscut. This end has been driven 18 feet, making a total distance driven of 38 feet 6 inches. The lode is 6 feet wide, assaying 1 ounce 13 dwts.—1060 feet level south, south of No. 2 crosscut. This end has been driven 18 feet 9 inches, making a total distance driven of 35 feet 6 inches. The lode is 6 feet wide, assaying 1 ounce.—890 feet level north. The lode in the stope in the back of this level is 2 feet wide, assaying 8 dwts. 11 grains.—890 feet level north of crosscut. This level has been driven 19 feet, making a total distance driven of 436 feet. The lode is 5 feet wide, assaying 1 ounce 6 dwts. 3 grains. The winze in the bottom of this level has been sunk 10 feet, making a total depth of 70 feet 6 inches. The lode is 2 feet wide, assaying 1 ounce 12 dwts. 16 grains. There are three stopes in the back of this level, the average width of the lode being 2 feet 8 inches, giving an average assay of 1 ounce 6 grains.—780 feet level north. The lode in the stope in the back of this level is 2 feet wide, assaying 18 dwts. 6 grains.—780 feet level north on new chute. There are eight stopes in this level, the average width of the lode being 3 feet, giving an average assay of 15 dwts. 22 grains.—620 feet level north of crosscut. The lode in the stope in the bottom of this level is 3 feet wide, assaying 1 ounce 7 dwts. 10 grains.—620 feet level south of crosscut. The lode in the stope in the back of this level is 1 foot 6 inches wide, assaying 13 dwts. 1 grain.—Driving south on the branch in the 620 crosscut east. This end has been driven 2 feet 6 inches, making a total distance driven of 57 feet 6 inches. The lode is 6 inches wide, assaying 4 dwts. 13 grains.—Crocker's shaft, crosscut west at the 890. This end has been driven 26 feet 6 inches, making a total distance driven of 35 feet 6 inches.—Driving north at the 780 for plat. This been driven 11 feet, making a total distance driven of 27 feet.—236 feet level north. The lode in the stope in the back of this level is 1 foot 6 inches wide, assaying 17 dwts. 14 grains.—Taylor's shaft, 466 feet level north. The lode in the stope in the back of this level is 2 feet wide, assaying 3 dwts. 6 grains.—Gibber's shaft. This shaft has been sunk 3 feet, making a total depth of 34 feet 10 inches below the 650 feet level. The lode is 1 foot 6 inches wide, assaying 1 dwt. 23 grains.—520 feet level north. There are three stopes in the back of this level, the average width of the lode being 2 feet 2 inches, giving an average assay of 11 dwts. 7 grains.—520 feet level south. The lode in the stope in the back of this level is 2 feet wide, assaying 1 ounce 3 dwts. 6 grains.—430 feet level north. The lode in the stope in the bottom of this level is 1 foot 6 inches wide assaying 12 dwts.—360 feet level north. The lode in the stope in the bottom of this level is 2 feet wide, assaying 4 dwts. 13 grains.—290 feet level north. There are three stopes in the back of this level the average width of the lode being 2 feet, giving an average assay of 15 dwts. 5 grains.—180 feet level south. There are two stopes in the back of this level the average width of the lode being 2 feet 9 inches, giving an average assay of 8 dwts. 3 grains.—Tennant's shaft, 750 feet level north of crosscut west. This level has been driven 13 feet 6 inches, making a total distance driven of 97 feet. The lode is 1 foot 2 inches wide, assaying 6 dwts. 12 grains.—290 feet level south. The lode in the stope in the back of this level is 1 foot wide, assaying 1 ounce.—Schaw's shaft, 450 feet level north of crosscut. There are three stopes in the back of this level, the average width of the lode being 1 foot 4 inches, giving an average assay of 11 dwts. 7 grains.—460 feet level south of crosscut. This level has been driven 2 feet 3 inches, making a total distance driven of 340 feet 6 inches. There is nothing here to report. There are three stopes in the back of this level, the average width of the lode being 1 foot 6 inches, giving an average assay of 17 dwts. 4 grains.—McTaggart's shaft. This shaft has been sunk 5 feet 6 inches, making a total depth of 84 feet 6 inches below the 550 feet level north. This level has been driven 13 feet, making a total distance driven of 192 feet 8 inches.—550 feet level south of crosscut west. This end has been driven 3 feet, making a total distance driven of 157 feet 3 inches. There is nothing here to report. The winze in the bottom of this level has been sunk 5 feet, making a total depth of 8 feet. The lode is 2 feet 6 inches wide, assaying 4 dwts. 13 grains.—320 feet level south. There are three stopes in the back of this level, the average width of the lode being 1 foot 6 inches, giving an average assay of 3 dwts. 11 grains.—Glen shaft, 260 feet level north, No. 1 crosscut east. This has been driven 3 feet 6 inches, making a total distance driven of 42 feet.—Ribblesdale's shaft. This shaft has been sunk 10 feet 6 inches, making a total depth of 32 feet 6 inches below the 1060.—1460 rise. This has been put up 4 feet 6 inches, making a total height of 33 feet.—Williams' shaft, crosscut east from the 173. This has been driven 2 feet 6 inches, making a total distance driven of 143 feet 6 inches. Health good. Water scarce.

NEW QUEEN.—The following fortnightly report has been received from the mine, dated Charters Towers July 19:—I beg to submit my report on the work done in your mine during the past fortnight.—No. 2 level. Stopping has been carried on over this level, the reef averaging about 4 inches.—No. 4 south level (footwall). This drive has been extended a further distance of 16 feet, making it 154 feet from the junction of footwall and hanging wall reefs. Stopping has also been carried on over and under the level. The reef varies in thickness from 3 inches to 1 foot.—No. 5a south level. Stopping has been carried on over this level, the reef averaging about 1 foot thick. No. 1a underlie north level has been extended 7 feet, making it 271 feet from underlie shaft. The reef in this level and stopes is very regular and small, varying from 2 to 6 inches.—No. 4 formation. No. 3 north level has been extended a further distance of 18 feet, making a total of 77 feet from underlie shaft. The reef in the end of the level is about 1 foot in thickness. Stopping has also been carried on, the reef being irregular, varying from 6 to 9 inches.—Straight shaft. The straight shaft has been sunk a further depth of 26 feet, making it 71 feet from the No. 4 plat, and 1073 feet from the surface. The ground in the shaft is very heavy, causing the dimensions to be a little wider. As it is impossible to keep the sink holes from tearing away the sides of the shaft, it will be necessary for us to timber during the coming fortnight. The rock-drills have been kept at work from Sunday night 12 o'clock till Saturday night 12 o'clock, to enable us to get on with the straight shaft as much as possible. Although the mine is being worked at a disadvantage owing to the want of a sufficient pressure of air, we are doing the best possible under the circumstances, and patiently waiting for some relief in the shape of the new compressor. The foundation for the new compressor is being proceeded with as quickly

as possible. Quantity of stuff raised during fortnight:—No. 2 south level 44 trucks; No. 4 south level (footwall), 183 trucks; No. 5a south level, 59 trucks; No. 1a underlie north level, 14 trucks; No. 4 formation, 84 trucks; total, 384 trucks.—(Signed) William Henderson.

NUNDYDROOG.—Thomas Richards's report for the fortnight ending August 17:—Taylor's shaft. The 1240 feet level south has been driven 16 feet, total distance 87 feet 6 inches. Lode 1 foot wide assays a trace of gold. The 1240 north has been driven 21 feet 6 inches, total distance 84 feet. Lode 1 foot wide assays 2 dwts. 12 grains. In the stope in the back of the 1000 north the lode is 2 feet wide and assays 10 dwts. The 920 north has been driven 11 feet, total distance 204 feet. Lode 2 feet wide assays 5 dwts. In the stope in the back of the 760 north the lode is 2 feet 6 inches wide and assays 8 dwts 18 grains. In three stopes between the 600 and 520 levels north the lode averages 2 feet 4 inches in width and 8 dwts. 8 grains in assay value. The lode in the stope in the back of the 520 north is 1 foot wide and assays 7 dwts. 12 grains. In the stope in the back of the 300 north the lode is 1 foot 3 inches wide and assays 10 dwts. Main shaft has been sunk 9 feet 6 inches, total depth 24 feet below the 1080 level. The lode, 1 foot wide, assays a trace of gold. The 1080 feet level north has been driven 22 feet 6 inches, total distance 183 feet 6 inches. The lode is 3 feet wide and assays 3 ounces 6 dwts. 6 grains of gold per ton. The 1000 north has been driven 6 feet 9 inches, distance 240 feet 9 inches. The lode continuing poor in this drive a crosscut east has been commenced from the end north, with the object of ascertaining whether any further portion of the lode is to be found in this direction and has already been advanced 6 feet. The 1000 north rise has been put up 24 feet 6 inches, total height 73 feet 6 inches. Lode 3 feet wide assays 3 ounces 1 dwt. 6 grains. In the stope in the back of the 920 south the lode is 4 feet wide and assays 12 dwts. 12 grains. In two stopes in the back of the 340 south the lode averages 4 feet in width and 8 dwts. 3 grains in assay value. The 680 south from north crosscut east on main lode has been driven 14 feet, total distance 31 feet. The lode 2 feet wide is of no assay value. The 680 north on Kennedy's lode has been driven 19 feet, total distance driven 76 feet. The lode consists of quartz stringers assaying a trace of gold. The 680 north crosscut west has been extended 12 feet 6 inches, total distance 183 feet 6 inches. No change. The 520 north from crosscut east has been driven 12 feet 9 inches, total distance 86 feet 9 inches. Crosscuts are now being extended east and west from this drive with the object of intersecting the lode, which has evidently been faulted at this point. These have already been driven 7 feet west and 6 feet 6 inches east without meeting with the lode in either direction. The 370 north from crosscut east on main lode has been advanced 14 feet, total distance 14 feet. The lode is 4 feet wide, and assays a trace of gold. Kennedy's shaft has been sunk 6 feet, total depth 76 feet below the 600 feet level. The 600 south has been driven 15 feet, total distance 155 feet. The lode is 2 feet 6 inches wide, and assays 12 dwts. 12 grains. The 600 north has been driven 14 feet 6 inches, total distance 202 feet. Lode 1 foot wide, assays 3 dwts. 18 grains. The 520 south has been driven 13 feet 6 inches, total distance 640 feet 6 inches. Lode 1 foot 6 inches wide, carries a trace of gold. The 520 north crosscut west has been extended 13 feet 6 inches, total distance 88 feet. No change. The 440 south has been driven 16 feet, total distance 1082 feet. Lode 3 feet wide, assays a trace of gold. In the stope in the back of this level the lode is 4 feet wide, and assays 2 ounces 15 dwts. of gold per ton. The lode (part carried) in the stope in the bottom of the 440 north is 10 feet wide, and assays 1 ounce. The 370 south has been driven 13 feet 6 inches, total distance 774 feet 6 inches. Lode 2 feet 6 inches wide, assays 1 ounce 17 dwts. 12 grains. In the stope in the back of the 370 north the lode is 5 feet wide, and assays 2 ounces 17 dwts. 12 grains. The 370 south from north crosscut west on No. 2 lode (met with at 236 feet in the crosscut) has been driven 14 feet. Lode of no assay value. The 300 south has been driven 19 feet 6 inches, total distance 685 feet 6 inches. Lode 6 inches wide, assays 18 dwts. 18 grains. In the stope in the back of this level the lode is 3 feet 6 inches wide, and assays 1 ounce of gold per ton. The 230 south has been driven 15 feet 6 inches, total distance from north shaft 30 feet 6 inches. Lode 6 inches wide, assays 1 ounce 8 dwts. 18 grains. The 160 south has been extended 6 feet, total distance 389 feet 6 inches. Lode 6 inches wide, assays a trace of gold. In the stope in the back of the 160 north the lode is 3 feet wide, and assays 10 dwts. North shaft has been sunk 1 foot 6 inches, total depth 67 feet below the 520 feet level. Lode 1 foot 6 inches wide, assays a trace of gold.—Old mill samples. Pulp, 1 ounce 2 dwts. 12 grains; tailings, 3 dwts. 12 grains.—New mill samples. Pulp, 1 ounce 12 dwts. 12 grains; tailings, 4 dwts. 12 grains.

NINE REEFS.—Mine report for fortnight ending August 20 Vyvyan's shaft. The stopes in the bottom and back of the 220 feet level south yield quartz of from 6 to 8 inches wide, and assay on an average 2 ounces 4 dwts. 2 grains of gold per ton. The stope in the bottom of the 220 feet level north produces quartz of a width of 8 inches; it assays 1 ounce 19 dwts. 4 grains per ton. The stopes in the bottom and back of the 145 feet level south yield quartz varying in width from 6 to 8 inches, and of an average assay value of 1 ounce 10 dwts. 19 grains per ton. The stope in the 145 feet level north of the shaft produces quartz of about 6 inches wide, and assays 2 ounces 1 dwt. 19 grains per ton.—South shaft. This shaft has been sunk 5 feet 3 inches, or 60 feet 6 inches below the 210 feet level. The lode still presents a promising appearance, and will soon farther improve I think. It is over 3 feet wide; about 2 feet of this consists of small veins or leaders of quartz, the assay of which is 9 dwts. 4 grains per ton.—Surface. Oriental lode. We are now engaged making the needful preparations for the reception of the shortly-expected new machinery necessary to be erected before the underground operations can be commenced at this part of the mine. On its arrival we shall at once and with all possible speed proceed with its erection that the work of draining, clearing, &c., of the workings on this lode may be commenced as early as possible.

OURO PRETO.—Passagem Mine report for July: Incline shaft No. 1 was sunk 3.40 metres. The breast is in quartzite, but lode is holding over the roof. 505 end north-east was driven 3.20 metres in quartzite, with only a small line of ore against the roof. 470 end north-east was driven 5.30 metres full size in strong quartz lode. 470 end south-west was driven 0.60 metres in schist without ore. 435 end north-east was driven 2.40 metres in schist, but quartz is coming in again from the bottom. 435 end south-west was driven 4 metres in mixed schist and quartzite. 400 end north-east was driven 4.40 metres. In the beginning of the month it carried a good deal of quartzite, but is now nearly full size in good quality ore. 365 end north-east was driven 3.40 metres. Lode has become pinched to a mere line against the roof, and the end is in very hard quartzite. Crosscut from 365 north-east was driven 5.30 metres. It is still in quartzite, but a little easier for driving. Rise from 365 north-east was advanced 2.80 metres, and has got into quartz lode of fair quality. The stope below will be turned towards the ore, and the rise is suspended. End from No. 2 shaft at 365 was driven 2.60 metres in strong quartz lode, but a bar of quartzite is rising from floor of level. 365 end south-west was driven 3 metres in schist without ore. Rise at 265 south-west was advanced 5.70 metres, and communicated to 215 level. For the past two months the rise has been in good quality ore, which will yield a fair amount of stopping ground along under the 215 level. End from stope under 215 south-west was driven 2.90 metres in quartz lode carrying good patches of tourmaline and pyrites. It has holed to the lower stope, thus facilitating removal of ore from upper stopes which had become blocked by a fall of roof. 215 end north-east was driven 5.40 metres. The ore has cut out and the end is now advancing in quartzite.—Stopping. From the stopes at 435 level over 500 cubic metres of ground were broken, the greater part of which was clean milling ore of good average yield. These stopes continue to be very productive, the lode averaging in size from 4.50 metres in the outer, to 7.50 metres in the inner stope, and they produce about one-third the ore milled. At the 400 level very little ground was broken in rise 28, where the lode is of better yield, as a good deal of walling and arching had to be done to secure the roof. Between the shafts at this level the lode in the upper stopes is still of considerable size, but at present carries a large amount of schist and quartzite, which is difficult to separate.

from the fine ore, and very much reduces its value. In the stope north-east of No. 2 shaft the lode is 2 metres thick, holding up very regularly, and appears to be widening in the north-east end. At the 365 level the stope near end and also the outer stope, which is on good quality ore, have not been worked for want of hands. North-east at the 315 level the stope on Barroco Seco shoot continues to be very productive. A stoping face 4 metres high is being carried forward under the level in massive quartz carrying good lines and patches of pyrites throughout. At the 315 south-west the stope near end shows a good deal more quartzite than formerly, and the ore is reduced to about 3 metres in thickness. In the stope near rise 30 the lode has improved, and a good regular body of lode 3 metres thick is holding up, carrying a fair amount of pyrites and tourmaline ore. At the 265 level south-west a pillar of ground is being stoped under the level, the lode being 4 metres thick and of fair average yield. Another stope over the level shows about 3 metres thickness of quartz, carrying pyrites and tourmaline ore. At the 215 north-east the outer stope continues on a good regular body of lode 4 metres thick, and another new stope on the same ore is also opening up well. (Signed) Henry J. Gifford.

YERRAKONDA.—Fortnightly report of Captain Seantlebury, mine agent, dated August 20: Boreford's shaft. This shaft has been sunk 8 feet 6 inches, now 87 feet 3 inches below the 300 feet level. The lode is 6 feet wide, composed of quartz and iron pyrites assaying 3 dwts. 6 grains of gold to the ton. 300 feet level north has been extended 18 feet, now 156 feet from shaft. The lode is 4 feet wide, composed of quartz, country rock, and iron pyrites, assaying 2½ dwts. of gold to the ton. New engine shaft has been sunk 9 feet, now 227 feet from surface. In another 10 feet sinking we expect to strike the lode. South shaft has been sunk 6 feet 6 inches, now 146 feet 6 inches from surface. The lode is 4 feet wide, against the hanging-wall there is 2 feet 3 inches of solid quartz, and we expect to see an improvement in a few feet more sinking. The quartz at present is worth 4 dwts. of gold to the ton. Prospect shaft south has been sunk 16 feet 6 inches, now 52 feet 6 inches from surface. The quartz in the bottom is 4 feet wide, and worth 4½ dwts. of gold to the ton. Health, I am pleased to say the health of the camp is fairly good.

NOTES FROM ANDALUCIA.

PAPER ON THE CUPREOUS PYRITES DEPOSITS OF ANDALUCIA AND ALGARVE.

RETROSPECTIVE AND PROSPECTIVE.

Extracts and Notes from Mining Operations and Reports on these during the past 25 years.

By WILLIAM GUTHRIE BOWIE.

(Continued from Page 1090.)

WHILE the geology of the surroundings of these deposits will be best treated apart in the paper on manganese ore, which deposits are so intimately related with those of the cupreous pyrites, as to be better understood when treating the question of their origin, together with which the geological systems in which they are found have every importance, it will be of some service to briefly review the same here, seeing that the former and future calculations depended the one, and now depend the other, upon geological deductions.

What were the opinions of the ancients respecting the geology of this southern part of the peninsula we have no knowledge; but no doubt any such would be based on those doctrines we designate Oriental cosmogony, and those opinions then existing of successive destruction and renovation of worlds, and hence depending on great derangements, violent catastrophes, cataclysms, and conflagrations, or probably the Pythagorean doctrines in the Augustan age, and opinions of Aristotle, Eratosthenes, Xanthus, Strabo, or Pliny. Whatever of these they may have followed, it is fully evident that their mining operations, if not guided by paleontological reasoning, were at least directed by fairly sound mineralogical deductions.

We must, however, here bridge over all these theories, advanced from the times of such philosophers up to the present century, although it is probably the Moors, judging from the Arabian writers of the eighth, tenth, and thirteenth centuries, were not indifferent geologists, and although not regarded as a mining nation, yet seeing this they may have utilised some such views in their mining operations in Spain, as is evident in some of their ancient mines and works in this country.

For practical purposes it has been well said that we can afford to forget all the geological theories and schemes from the earliest times up to a very recent period in this century without being in any way the poorer in this science; in fact, all the better for us all if we could so forget the same, only there would be again danger of many rewriting the "past absurdities" as "new views," if these old ones did not exist in history to prevent them.

Leaving all up to the time of the revival of mining some 50 years ago in Spain, we find that all geological descriptions of this part of Spain have been made chiefly by German, French, and Italian geologists, who appear to have separate opinions, according, as biased by physico-theological, Wernerian, or Huttonian theories, or pronounced Neptunists, Plutonists, or Vulcanists, and in respect of this part of Spain their estimations are full of such terms as being Plutonic, volcanic, metamorphic, Arciac, transition, crystalline, Azoic, &c., by one class, and the most liberal of the others holding to Cambrian and Silurian; but all appear to have been more guided by the first impressions made by the appearances of the sites they may have visited, and classified the whole according to this impression. The works referred to at the beginning of this paper all indicate this, and some of these were by professors of geology.

The rocks around these masses show great variety and complexity, while there have been considerable alterations by agencies, often invisible, causing metamorphic appearances, where least expected, so much so that even now proper determinations as to systems and their groups have not been arrived at. It is thus not surprising that over-calculations of these masses were made by many, while up to the time the Government of Spain undertook to have proper geological surveys made of each Province. We, like so many "Verdant Greens," fresh from the "fire and flame" theories of our professors, again exposed to the estimations and arguments of these geologists and experts, have followed their teachings, and it is only paleontological evidence that enables some few to disassociate themselves from the influences such still have over many of their contemporaries.

Mining engineers and experts have to depend much upon what is the common opinion regarding the geology of the places they visit, as it is hardly possible that the few hours, in most instances, and rarely one or more days in others, they can afford to spend upon their inspections, give them a chance, unless by accident, to positively determine the place to any geological system, hence the previous estimations of others, or impressions formed by local appearances are their only guides. Besides the above, they are, no doubt, often deceived by deliberate misinformation by interested parties, which such hasty visits certainly do not permit them to discover. We have on record many instances of such cases, and great mistakes made on this account by highly-respected English engineers.

(To be continued.)

EXPORT AND IMPORT TRADE.

THE BOARD OF TRADE RETURNS—AUGUST TABULAR STATEMENT.

Specially compiled for "The Mining Journal" from the Board of Trade Returns.

THE Board of Trade Returns for the month of August show that the Imports amounted to £24,611,305, against £21,630,521, for August, 1894; an increase of £2,980,784. The Exports for the eight months ending August 31 were £213,390,885, against £274,430,409 for the corresponding period last year, a decrease of £61,039,524. The Exports for August totalled £20,481,496, against £18,551,447, and an increase of £1,930,049. For the past eight months the Exports show an increase of £3,285,348, being £214,715,497, against £211,430,149 for the same period 1894. The Exports of Foreign and Colonial Merchandise were £2,189,702, against £2,127,350, an increase of £62,352; and for the first eight months £21,311,077, against £20,702,799, an increase of £608,278.

EXPORTS—SUMMARY OF INCREASES AND DECREASES.

PRINCIPAL AND OTHER ARTICLES	QUANTITIES		VALUES	
	INCREASE.	DECREASE.	INCREASE.	DECREASE.
Raw Materials:				
COAL and Patent Fuel ... Tons	477,367	—	40,738	—
COAL, &c., shipped for steamers' use ... Tons	50,803	—	—	—
Metals:				
BRASS, and manufactures of	817	—	4,585	—
COPPER, unwrought and wrought ... Cwts.	—	1,857	5,363	—
HARDWARE and cutlery ... £	—	—	7,249	—
IMPLEMENTS and tools, and parts thereof ... £	—	—	8,314	—
IRON, unwrought and wrought ... Tons	18,437	—	136,538	—
LEAD, pig, rolled, &c. ... Tons	—	519	2,407	—
PLATE, and plated gut wares & THERMOGRAPHIC WIRE, &c. ... £	—	—	6,705	—
TIN, unwrought ... Cwts.	—	2,258	38,062	—
ZINC or SPALTER ... Tons	5,428	—	3,700	—
OTHER ARTICLES ... £	—	—	16,396	—
Total ...	—	—	183,793	—
Machinery: Steam engines ...	—	—	72,432	—
Other descriptions ...	—	—	61,738	—
Total ...	—	—	134,170	—
ALKALI ... Cwts.	89,846	—	13,674	—
CEMENT ... Tons	2,112	—	468	—
PRODUCTS OF COAL ...	—	—	12,435	—

EXPORTS—BRITISH AND IRISH PRODUCE.

PRINCIPAL AND OTHER ARTICLES	QUANTITIES		VALUES	
	Month ended Aug. 31.	Month ended Aug. 31.	Month ended Aug. 31.	Month ended Aug. 31.
Metals and Articles Manufactured therefrom (except Machinery):				
Brass, and Manufactures of, not being Ordnance ...	7,742	8,569	29,116	33,711
Copper: Unwrought, in ingots, cakes, or slabs, and Precipitates:				
To Germany ...	12,806	20,857	27,082	46,560
" Holland ...	9,710	11,904	20,504	26,398
" France ...	8,502	6,463	5,503	7,082
" Italy ...	4,441	9,483	9,221	21,714
" British East Indies ...	2,088	1,000	4,537	2,462
" Other countries ...	15	205	32	408
Total ...	42,557	57,242	91,601	128,085
Wrought, or Manufactures, unenumerated:				
To Sweden and Norway ...	550	1,914	1,514	5,779
" Germany ...	337	300	1,182	1,049
" Turkey ...	3,376	2,465	8,335	6,781
" Egypt ...	2,425	2,119	6,163	5,472
" Brazil ...	1,983	1,323	5,335	5,257
" British East Indies ...	9,181	3,435	18,660	9,232
" Australasia ...	1,138	668	3,350	2,018
" Other countries ...	8,410	8,156	24,894	19,551
Total ...	28,600	19,850	69,935	54,109
Mixed or Yellow Metal:				
To China and Hong Kong ...	3,359	1,179	7,115	2,838
" British East Indies ...	17,598	7,730	24,667	15,988
" Other countries ...	7,887	7,283	18,470	16,813
Total ...	28,844	16,192	50,252	35,639
Total of Copper ...	93,981	92,324	211,828	217,211

Implements and Tools, and parts thereof	—	—	153,178	160,427
Hardware and Cutlery ...	—	—	92,964	101,278

Iron and Steel: Pig-iron:				
To Russia ...	15,602	17,049	38,745	39,540
" Sweden and Norway ...	3,134	9,228	6,896	10,244
" Denmark ...	1,568	801	3,188	1,585
" Holland ...	27,721	19,248	51,545	40,808
" Belgium ...	10,740	18,538	23,317	26,573
" France ...	3,673	3,539	10,981	10,638
" Portugal, Azores, & Madeira ...	1,546	2,467	4,915	5,019
" Spain and Canaries ...	387	204	844	479
" Italy ...	2,871	1,107	6,234	292
" United States ...	7,647	11,021	18,602	24,631
" Australasia ...	655	2,745	4,796	20,244
" British North America ...	1,708	2,125	3,621	4,852
" Other countries ...	4,410	775	1,418	2,301
Total ...	4,072	9,367	10,101	18,692

Bar, angle, bolt, and rod	8,695	12,375	55,448	70,710
Railroad of all sorts ...	42,140	46,945	179,271	184,161
Wire, iron and steel &c. ...	3,228	3,482	51,055	56,228
Hoops, plates, boiler plates, &c. ...	9,849	11,979	69,989	1,009,3
Galvanized sheets ...	14,046	17,545	156,402	190,546
Cast and wrought iron, &c. ...	24,921	21,435	309,923	293,453
Old, for re-manufacture ...	8,209	6,391	21,073	17,742
Steel, unwrought ...	20,681	15,777	183,717	160,727
Black plates for tinning ...	—	2,496	—	25,026
Manufactures of steel, or of iron and steel combined ...	1,909	2,064	45,745	53,139
Total of iron and steel (including tin plates and sheets) ...	240,277	259,414	1,572,183	1,708,721
Tin Plates and Sheets:				
To Russia ...	759	38	9,643	422
" Germany ...	421	284	5,309	2,487
" Holland ...	332	358	4,283	4,298
" France ...	820	577	6,530	—
" Portugal, Azores, and Madeira ...	322	850	3,988	7,086
" Italy ...	214	80	2,872	1,145
" Romania ...	194	404	2,475	4,703
" United States ...	19,125	23,531	231,245	281,489
" Brazil ...	396	315	4,588	3,495
" Argentine Republic ...	141	347	1,751	3,826
" British East Indies ...	433	832	5,507	7,230
" Australasia ...	634	1,012	7,617	11,430
" British North America ...	1,278	878	14,609	9,184
" Other countries ...	1,436	1,629	19,155	19,315
Total ...	26,325	30,943	319,352	350,648

Lead: Pig Sheet, Piping, and Manufactures:				
To Russia ...	665	694	5,612	7,410
" Germany ...	150	168	1,521	1,773
" China and Hong Kong ...	533	4	5,026	40
" Japan ...	228	89	2,338	1,141
" United States ...	260	320	2,824	3,357
" British East Indies ...	409	378	5,684	5,887
" Australasia ...	38	38	402	897
" British North America ...	150	207	1,516	2,339
" Other countries ...	834	764	8,933	9,045
Total ...	3,104	2,048	33,960	31,459

BRITISH AND IRISH PRODUCE—Continued.

PRINCIPAL AND OTHER ARTICLES	QUANTITIES		VALUES	
	Month ended Aug. 31.	Month ended Aug. 31.	Month ended Aug. 31.	Month ended Aug. 31.
Plate & Plated & Gilt Wares:				
Telegraphic Wires, & apparatus connected therewith ...	—	—	23,072	29,777
Tin, Unwrought:				
To Russia ...	2,580	2,022	9,672	6,880
" Sweden and Norway ...	329	364	1,132	1,183
" Germany ...	748	613	2,535	1,703
" France ...	826	1,259	2,919	4,297
" Turkey ...	637	392	2,277	1,461
" United States ...	406	—	1,461	—
" British North America ...	546	408	8,024	1,324
" Other countries ...	3,914	2,680	14,101	9,806
Total ...	9,969	7,608	35,861	25,993
Zinc or Spalter: Unwrought and Wrought ...	12,142	17,570	6,371	12,074
Total of Principal Articles ...	—	—	2,227,692	2,350,089
other Articles ...	—	—	51,019	67,416
Total of Metals and Articles Manufactured therefrom (except Machinery) ...	—	—	2,278,711	2,417,504
Alkali ... Tons	389,574	479,320	110,973	124,818
Cement ...	—	—	—	—
Products of coal (including paraffin, petroleum, &c.) ...	—	—	—	—

MACHINERY.

PRINCIPAL ARTICLES.	QUANTITIES		VALUES	
	Month ended Aug. 31.	Month ended Aug. 31.	Month ended Aug. 31.	Month ended Aug. 31.
Mining: (Not Steam Engines):				
To Countries in Europe ...	—	—	871	1,364
" United States ...	—	—	10	375
" Countries in South America ...	—	—	2,249	891
" British Possessions in S. Africa ...	—	—	20,159	41,821
" East Indies ...	—	—	4,464	4,308
" Australasia ...	—	—	20	7,430
" Other Countries ...	—	—	6,494	6,102
Total ...	—	—	34,327	62,448
Total of Machinery other than Steam Engines ...	—	—	971,347	1,033,085
Total of Steam Engines ...	—	—	316,729	244,597
Total of Machinery and Mill Work ...	—	—	1,288,076	1,277,682

EXPORTS OF FOREIGN AND COLONIAL MERCHANDISE

PRINCIPAL ARTICLES.	QUANTITIES		VALUES	
	Month ended Aug. 31.	Month ended Aug. 31.	Month ended Aug. 31.	Month ended Aug. 31.
Copper:				
Unwrought and part wrought	727	1,258	30,796	56,827
Iron and Steel:				
Bar, angle, bolt, and rod	1,655	2,206	13,063	17,729
Steel, unwrought ...	127	163	1,295	1,739
Manufactures:				
Girders, beams, and pillars ...	13	188	83	923
Unenumerated ...	66,545	58,291	39,004	36,401
Petroleum ...	140,278	120,613	5,543	5,961
Quicksilver ...	315,266	238,107	23,837	21,113
Salt-petre ...	1,724	1,548	1,602	1,398
Tin, in blocks, ingots, bars, or slabs ...	40,807	28,501	142,076	125,903

SUMMARY OF INCREASES AND DECREASES.

SUMMARY OF INCREASES AND DECREASES.						
PRINCIPAL AND OTHER ARTICLES.			QUANTITIES.		VALUE.	
			Increase.	Decrease.	Increase.	Decrease.
Metals:						
COPPER: Ore ... Tons			5,369	—	12,210	—
Regulus ...			—	791	—	37,009
Unwrought and part wrought ...			—	1,588	—	41,144
IRON: Ore ...			52,427	—	39,094	—
Bar ...			7,290	—	6,336	—
Steel, unwrought ...			—	588	—	3,849
LEAD: Pig and sheet ...			3,909	—	56,340	—
PYRITES of iron or copper ...			—	6,396	—	5,361
QUICKSILVER ... Lbs.			45,572	—	5,332	—
SILVER ORE ...			—	—	—	408
TIN, in blocks, &c. ... Cwts.			—	4,427	—	35,443
ZINC, crude ... Tons			—	110	—	1,180
OTHER ARTICLES ...			—	—	18,182	—
Total ...			—	—	141,443	191,304
					121,376	
					20,067	
Chemicals:						
ALKALI ... Cwts.			—	—	—	—
BURSTON ...			18,099	—	3,528	—
SALT-PETRE ...			14,851	—	4,313	—
Iron Manufactures:						
Beams, girders, &c. ... Tons			—	26,154	—	4,767
Unenumerated ... Cwts.			45,929	—	66,539	—
ZINC MANUFACTURES ...			—	—	45,748	—

KIMBERLEY AND ITS DIAMONDS.

DR. ATHERSTONE'S THEORY.

At the monthly meeting of the Geological Society of South Africa, Dr. ATHERSTONE read the following paper on "Kimberley and its Diamonds":—

To make this paper generally intelligible, it will be necessary to give a brief retrospective glance at the geological history of this part of South Africa. At the close of the Carboniferous era great volcanic activity, with extensive earth movements of elevation and depression, prevailed in both hemispheres. In South Africa, along the western coast line, the Table mountain, Devonian, and Carboniferous rocks were upheaved from the Hex river northwards, across the Orange river into Damaraland, and from the same point faulted and bent at right angles eastwards across the continent, forming a northern barrier range of the Zwartberg and Zuurberg, in parts 6,000 feet above the sea level, crushed and crumpled by lateral pressure from the south. The Zuurberg and Witteberg, extending for 600 miles in three parallel folds through Grahamstown and Fish river mouth to India, dammed up the rainfall of both continents, at that time united, and formed a vast fresh-water lake, or chain of lakes in the depressed area of the older metamorphic rocks, similar to those still existing in Central Africa. As the rainfall accumulated, the lake water gained access through fissures to the molten rocks below, the pent-up steam escaped in the lines of least resistance—as at the now extinct volcanoes of Camdeboo, the Kimberley group, Jagersfontein, &c.—and showered forth ashes, mud, rounded fragments of older rocks, granite, quartzite, &c., with lava, over the bottom of the lake, which the currents spread along its coast lines, thus forming the basal conglomerate beds known as the Ecca or Trap conglomerate, which have so puzzled geologists, being in certain parts a decided igneous breccia, in others an aqueous conglomerate of the same felspathic materials.

Africa's Extinct Animals.

Then followed a period of comparative repose, extending throughout the whole of the Trias, during which the sedimentary deposits from the lake accumulated to a depth of eight or nine thousand feet. In the clays and sandstones of these sedimentary beds were entombed and preserved the fossil remains of the living organisms of plant and animal life progressively developed through the vast epoch of the Trias; from the lowest form of aquatic plant-life, through the reptile age commencing (see *Grahamstown Journal*, January 3, 1839, and following numbers) from the huge "Tapinocephalus Atherstoni" at the head of the class, the herbivorous "Parasaurus," the toothless "Oudensodon Bainii," the two-tusked "Dyscnodon Bainii," the "Theriodonts," or reptiles with the dentition of carnivora, lions, tigers, wolves—progressively foreshadowing the type of the future mammalia of the earth—to the mammal itself, discovered in the uppermost strata, named and described by Owen, the "Tritylodon." Thus we have an unbroken record of creation over vast periods of the earth's history, engraven on tablets of stone—the great stone Bible of lacustrine South Africa, legible only to the geologist. The best section of the basal, or Ecca beds of these lacustrine strata, is to be seen near Grahamstown, the birthplace of South African geology; where, at the close of the first Kaffir war, in 1837, the rocks in the neighbourhood, and these wonderful fossil reptiles unknown in any other part of the world except India, were discovered and described by Staff-surgeon Jameson (see "Catalogue of Fossil Reptiles of South Africa, 1876," by Professor Owen, F.R.S., F.G.S.), afterwards energetically followed up by my old friend and fellow-worker, Andrew Geddes Bain, whose acquaintance I made early in 1840, on my return from Europe, our friendship and correspondence only terminating with his death, after he had received all the honours the Geological Society could confer.

The Diamond Formation.

In my first visit to the Diamond fields—in 1871—I had an excellent opportunity of seeing a nearly unbroken series of these lacustrine beds, from their upheaved base, near the top of the Carboniferous range at Botha's Hill, through the Queen's road, extending within a few miles of Fort Beaufort, where the reptilian zone of the Karoo formation begins; thence through the Blinkwater Pass, over the Katberg and Stomberg range at Molteno, crossing the Orange river at Bethulie, and through the Free State to Fauresmith. Here, delayed by floods, I rode out to Jagersfontein and examined the mine abandoned by the diggers for the more promising river diggings on the Vaal. Two disconsolate diggers were throwing out bucketful of garnets, peridot, ilmenite, tourmaline, &c., from trenches 10 feet deep in a black admixture of loam, ashes, and the debris of the old homestead of Widow Vischer with rounded fragments of granite, gneiss, quartzite, mica schist, and other metamorphic rocks. After careful examination, I found it undoubtedly of volcanic origin, bounded on three sides by dolomite, with an outlet leading into the Riet river. I came to the conclusion that it was a genuine mine, and that the diamonds, tourmaline, and other gems were *in situ*; but no person on my part would induce the diggers to remain, and it was abandoned for seven or eight years.

The Kimberley Mine Discovered.

From Fauresmith we travelled direct to the river diggings of Prull and Klip drifts, where, unfortunately, I was laid up for five or six days from the effects of a thorn in my knee, till July 13. I then proceeded to the so-called "dry diggings" just opened at Bultfontein, Datotopan, and De Beer's, the latter not 30 feet deep. I noticed the similarity of the vegetable impressions and fossils on the hills to those at Fauresmith and Jagersfontein, and came to the conclusion, from the surface indications and mineral contents, that De Beers was the exact counterpart of the abandoned mine I had seen at Jagersfontein. On July 16, whilst examining De Beers, and noticing its crater-like form, my attention was attracted towards a grassy mound, or kopje, crowned by stately giraffe acacias, on the west, and comparing its position with that of De Beers, I felt certain that a better diamond mine than De Beers would be found there, as Bultfontein was then yielding far superior diamonds to those in Datotopan. I urged my friends to prospect there at once, being still unable to do so myself. Five days afterwards a few diamonds were found, and De Beers New Rush was pegged out. I reported this prediction to Landdrost Truter, offering corroborative evidence, and two claims, as usual, were promised to me. The following is a copy of one of the first claim licenses issued, which I have kept as a curiosity. The name was afterwards changed to Colesberg Kopje, and ultimately Kimberley:—

"No. 241.
Digger's License.
El Dorado Peak, July 21, 1871.
License is hereby granted to Hanson to dig at this place, claim No. 301, for the period of one month, to August 20.
J. B. T. G. J."

Such is the history of the discovery of the Kimberley Mine. I afterwards examined all alluvial diggings from Fourteen Streams, above Hebron, along the banks of the Vaal river to its westerly bend, the metamorphic schists and limestone of the Knap or Campbell's Rand, as far as the source of the Hart river at Buchnap and the banks of the Orange river past Hopetown to De Kalk, where the first diamond was found.

The Diamond's History.

The succession of the strata in the Kimberley Mine is precisely the same as that of the lacustrine sedimentary beds—beginning from the quartzite base of the Carboniferous rocks and shales, through the Ecca and Karoo formation, the coal-bearing shales of the Stomberg to the dolomite, capping and protecting the surface, as proved by the rock shaft recently sunk out of the influence of the Kimberley Mine to a depth of 1000 feet, where a thickness of 400 feet of amygdaloidal lava with the Trappan Ecca conglomerate above it represent the prevailing rocks of the Vaal, Riet, and Grange rivers for a great distance below Hopetown. Incredible as it was deemed at the time, my story of

the small rounded river stone, which fell out of the unsealed letter placed in my hands by the post-boy, has since proved to have been the key that has unlocked the vast underground wealth of South Africa (*vide Geological Magazine*, vol. VI., No. V., May, 1869). The story I have now to tell of its birthplace and subsequent history will, I know, appear still more incredible—as fabulous, indeed, as was that of Sinbad, the Arabian voyager, who, with the talisman and magic lamp of Aladdin the Seer, unlocked the caverns of Africa's Fairyland, and viewed in prophetic vision the vast stores of buried treasures—gold, diamonds, and other gems, just as we see them now with our magic electric lamp 1000 feet down in the dark recesses of the extinct volcano, yielding millions of the purest gems upon earth. How came the diamond there in its hard blue matrix of ashes and lava, with its accompanying gems, garnets, rubies, sapphires, agates, and other gems, the products of solution and heat? For a substance to crystallise, its molecules must be free to move under polarising and other metamorphic forces influencing crystallisation; but the diamond, we know, is neither soluble nor fusible. It is the element carbon crystallised, and is consumed by heat. How, then, could it survive as a crystal in the crater of the volcano? The key to solve this mystery was placed in my hand, over half a century ago, by one of the greatest philosophers of the age, whose lectures I had the great privilege of attending.

Faraday's Experiment.

But it was not till I had examined a diamond mine in South Africa and speculated upon the apparently irreconcilable phenomena attendant upon the origin of the diamond in its matrix, that the practical application of Faraday's discovery began to dawn upon me. "Hold out your hand," said he, at the close of a lecture that fairly electrified the world of science, as with a loud hiss a snowy substance, burning like a coal but in reality intensely cold, escaped into the palm of my hand from the strong iron vessel in which, with a pressure of 50 atmospheres, he had liquified carbonic acid gas—the very gas resulting from the combustion of the diamond consisting of one atom of carbon, and two of oxygen.

How the Diamond was Made.

I have shown that the sedimentary beds deposited from this vast fresh-water lake attained a thickness of about 8000 feet. The lake itself, therefore, probably equalled that depth. Now, the experiments of Wyville Thompson and Carpenter, made during the voyages of the *Lightning* and *Porcupine*, proved that at a depth of 300 to 400 fathoms the pressure is equal to $\frac{1}{2}$ ton on the square inch; at 1 mile to 159 atmospheres, and at 1000 fathoms, or 6000 feet, it amounts to 200 atmospheres, or four times the pressure under which Faraday liquified carbonic acid gas, the temperature at such great depths being very few degrees above the freezing-point. In the carbonic acid gas generated from the carbonaceous shales by heat, and interspersed as gas bubbles in the cavities of the viscid, ferruginous amygdaloid, and in the admixture of steam, lava, and ashes known as the "Kimberley Blue"—reduced to the liquid state by this enormous pressure in the sub-aqueous volcano, we have the constituents of the diamond in a form admitting of crystallisation, and the subsequent absorption of its oxygen by the iron always present in its containing walls during long intermittent periods of volcanic inactivity. There are proofs in the Kimberley Mine that such alternating periods of activity and repose have recurred at long intervals, as shown by the four or five distinct and separate layers of diamonds lining its walls, of varying size and quality, known and recognisable by diamond buyers.

How Combustion was Avoided.

The intensely cold water of the lake passing up and down the throat of the volcano during periods of activity would prevent such a degree of heat as would consume the diamond, and would account for the well-known groovings and heiroglyphical markings on some of them. During the intermittent periods of activity vast quantities of diamonds and other gems which were formed during the intervals of repose, would necessarily be forced up into the lake waters and scattered abroad over extensive areas. This alternation of long periods of activity and repose might have gone on during the whole of the Triassic age until their final extinction caused by the draining of the lakes, when the mines were finally sealed up by dolerite, with the lake waters within, now being so extensively used in mining operations. The gradual upheaval of both continents was accompanied by the depression of the bed of the ocean between, no trace now remaining of their former union, save in the scattered islands, and in Madagascar, where the fossilised eggs of the "Epiornis" are found—the type of extinct gigantic birds now represented by the African ostrich. During this upheaval the barrier range of the Zwartberg, Witteberg, Langeberg, and Zwartberg was fissured across at the points of least resistance, the cracks widening into gaps or poortjes as the lake waters escaped, the velocity increasing with the erosion of the outlets, and gradual emptying of the lake. Proof of this may be seen in the accumulation of gravel and boulders at the several outlets, in some places extending along the valleys at the same level for long distances, like the moraines of a glacier.

The River Diamonds.

These conglomerates of rounded boulders and pebbles are also to be seen in our bays and estuaries—as at the Bushman, Zwartkops, and Gamtoos rivers, at Enon and Hankey, where they are four or five hundred feet in height, and also at Mossel Bay and the Knysna. As denudation increased, the softer sandstones and shales, where not protected by basalt or overflows from dolerite dykes, were worn away, producing the terraced and banded appearance of the tabular and conical mountains so characteristic of the Karoo, and similar formations in India. The rounded crystals, pebbles, agates, and jaspers from the amygdaloid of the Malutis, and the sources of the Kraai, Caledon and Orange Rivers were swept down into the Vaal, where, mingling with the gravels and boulders, and the diamonds and other gems ejected into the lake during periods of volcanic activity, they were hurled along the winding bed of the Vaal, and heaped up at the bends, dykes, and other obstructions in the river bed to a height of 150 feet—extending for long distances on either side. As the lake drained off the force of its currents increased, grooving and scratching the boulders and bedrock over such extensive areas as to induce some geologists to consider them the result of glacial action. These groovings, scorings, and markings may probably be satisfactorily explained as the result of their impetuous rush over the drainage levels to the sea, through the only available outlet or port in the western barrier range, now termed the Orange river—the silt and sands of this last denudation being heaped up above them to great heights along the slopes of the Campbell Rand and elsewhere. Such diamonds as escaped being ground into dust in the struggle for existence are equal in value to the Oriental diamonds of India. Amongst those so escaping the battle of the boulders were the "Star of South Africa," and the pioneer stone picked up in the gravels of the Orange river, far below Hope Town, by some Boer children, over 200 miles from the place of its birth—probably Kimberley. Thus ends the history of the talisman which opened our diamond mines, the gold mines of Johannesburg, the coal mines of Vereeniging, and which led to the railway extension throughout South Africa.

Geological Survey Needed.

Impairment of sight will, I trust, be deemed a sufficient excuse for any imperfections in this paper. Written in absolute darkness, unable to see what I write, my writing too often illegible to others, and with no geological friend to assist me, I have had to depend entirely on the memory of my past investigations as an amateur geologist. I hope, however, that I have succeeded in awakening an interest in the marvellous revelations which science has already unfolded, and in the practical results which may confidently be expected from further geological research. Hitherto all our mineral discoveries have been the result of pure accident. The shipwreck of an eminent Australian geologist (Dalstree) 20 years ago was the means of proving that our mountains, like those of Australia, are gold-bearing, but the gold lies still largely undeveloped. A child's plying showed us that our rivers and hills contained incalculable mineral wealth. All these vast millions of treasure might have been secured for Great Britain a quarter of a century ago had a systematic

geological survey been instituted on the discovery of the first diamond. We have now one of the most accurate trigonometrical surveys of modern times, embracing Natal, nearly completed by Major Norris, R.E., whose well-trained staff is unfortunately to be disbanded, when another year might prove to the neighbouring States the necessity of assisting the completion of this truly national work, the basis of an accurate geological survey. Let us hope that the riches now gained will help to dispel the darkness, and further develop the resources of Southern Africa.

The paper was received with applause. Mr. THEO. REUNERT said it was not the practice of the society to discuss a paper immediately after being read, and it was a good rule, for in such communications it was necessary to devote careful attention to the consideration and criticism of the papers, and to do justice to that which had been so carefully prepared. He had, however, the honour to ask them to pass a most hearty vote of thanks to Dr. Atherstone for the paper. The author had been only too modest in his account of the part he had played in the germination of the mining industry of South Africa. There was only a passing reference to that historical event which happened in Grahamstown 18 years ago, when by post-card, just in the ordinary way, even in an unsealed envelope, there arrived for Dr. Atherstone the first diamond discovered in South Africa. There was no other in the whole country but Dr. Atherstone who was qualified to express an opinion as to the real nature of this stone, and that Dr. Atherstone was then able to give a correct opinion hastened the development of mining in the country of which they were now sharers. They would remember that his opinion was fiercely controverted by the so-called experts, who, on the first announcement of the discovery of diamonds came out to make enquiries. Reference was made in the course of the paper to Dr. Gregory, who was one of those who came out, and, after making a most careful investigation, gave it as his opinion that the whole alleged discovery of diamonds was a bubble scheme got up entirely to promote the sale of land. Dr. Atherstone, in the course of his reply to an article which Dr. Gregory had published in the *Geological Magazine*, in May, 1869, said that sufficient had been discovered to justify a thorough search of the countries to the North of the Orange river. He thought this would be undertaken, and he was of opinion that, so far from the nature of the country forbidding the discovery of diamonds, there was every indication that rich diamond deposits would be discovered. Continuing, Mr. Reunert said that it was easy to be wise after an event, but here was a man who was wise before. No man is a prophet in his own country, and he was convinced that Dr. Atherstone's name was better known in Paris and London than in Johannesburg. He had much pleasure in proposing a hearty vote of thanks to Dr. Atherstone for the paper, and he believed that this would be published in the morning paper, and would go some way towards enabling people to recognise the debt that was owing to Dr. Atherstone's early work.

Mr. DRAPER, in seconding, said:—

Dr. Atherstone's Work.

I have great pleasure in seconding Mr. Keunert's proposed. The paper abounds in facts, and I wish to call the attention of this meeting to a few circumstances connected with the life of the author of the very interesting paper we have had the pleasure of hearing read this evening. In the first place, Dr. Atherstone is, I believe, the last survivor of that great band of colonists who arrived in the Cape Colony in 1820, and who are known to us as "the settlers." A child of about seven years of age when his parents settled in Grahamstown, he has seen the growth of that city from its commencement up to the present day, and has identified himself with its progress, publicly and privately, during all that time. But what concerns us most is the great interest which he has taken in the advancement of the science of geology. In reading over the notes on the life of the late Mr. A. G. Bain, I find that Dr. Atherstone and himself commenced to study this great science about the same time, and they were both led to investigate the strata here by the same cause—viz., the discovery of a fossil imbedded in the rocks found in the colony in 1840. Mr. Bain describes the circumstance as follows:—"Dr. W. G. Atherstone was at the meeting, and expressed his surprise that the specimens exhibited had been found in this country, as he had never heard of such before. He requested me to allow him to take sketches of some of them, and also to make a few notes on the spot, with which request I was but too happy to comply. He said he was now going to study geology, and should begin at once; and well has he kept his word, for I never met with one who made such astonishing progress in such a short time. From that day an intimacy began between us, which soon ripened into a friendship, which I trust may never cease while we live."

I notice, however, one omission in Dr. Atherstone's admirable paper. Our venerable Hon. Vice-President, who may well claim to be the Nestor of South African geology, has made no mention of the first diamond discovered in this country. The small glittering stone which had found its way into the house of Schaleb Van Niekerk, where it became a child's plaything, was discovered by the trader John O'Reilly, who, under the impression that it was of some value, forwarded it to Dr. Atherstone, and he identified it as a diamond of the first water. It was subsequently sold to the then Governor of the Cape Colony, Sir Philip Wodehouse. The decision of Dr. Atherstone in the matter of the identification of the first diamond was the turning point in the fortunes of South Africa. Had he cast the pebble on one side without carefully examining it, the vast wealth which has been produced from the various diamond mines in this country would, in all probability still have remained a hidden treasure. Geologists are generally looked upon as unpractical men, and their science as one of theories only. Dr. Atherstone's knowledge saved South Africa from ruin.

I wish to add a few remarks with reference to the Doctor's statement regarding the "Gradual upheaval of both continents (India and Africa), which was accompanied by the depression of the land in the position now occupied by the Indian Ocean." Some years ago I made a geological section from the top of the Drakensberg in the district of Newcastle to the shore of St. Lucia Bay, and found that the Triassic strata rested upon the tilted edges of the primary rocks below. About 40 miles from the shore, the Lebombo range, consisting entirely of a rhyolite porphyry runs roughly parallel with the coast for a distance of over 400 miles. On the eastern side of this range the strata dip to the east, and the same succession which we found on the western side of the Lebombo occurs on the eastern side, tilted and lowered until the coal beds, which at Newcastle are 4000 feet above the sea level, are found at St. Lucia Bay only 150 feet above the sea. The abundance of "Glosseopteris" and other typical fossils of the coal strata inland, and which are found in the coal beds at St. Lucia, prove conclusively that these beds are of the same age, and that they have sunk to their present level, the Lebombo range occupying the line of fracture. This phenomena is not confined to the small area surrounding St. Lucia Bay, but is equally distinct from there to the mouth of the Umsinkulu. The geology of India and Australia both show several features in common with that of South Africa. The Dywka conglomerate of this country is represented in India by the Taltchir conglomerate, and in Australia by the Bacchus Marsh beds. The fossils of the coal period in South Africa have their counterpart in the Indian and Australian coal mines, while the cliethrolepis extonii, Semiotis capensis and the dictyopyge draperii are closely allied to the fossil fish found in the Hawkesbury beds in Australia. These phenomena were discovered by Dr. Atherstone many years ago, and my observations are simply confirmatory of his theories. I have no doubt in my own mind that when the geology of these three countries is closely studied, in conjunction with that of the islands of the Indian Ocean, other affinities between them will be noted.

The society is to be congratulated on being able to include this most valuable paper in its "Transactions," and I am sure that the members will agree with me that we are greatly indebted to Dr. Atherstone for being allowed that privilege. More especially should we value this paper when we take into consideration the painful circumstances under which it was penned, and that it is, in all probability, the last effort of one of Africa's greatest geologists to enlighten us upon the science he loved so well, and to which he devoted such a large portion of his time.

Mr. SAWYER, in supporting, said: In a paper written by me in the year 1889 on "Mining in Kimberley," I stated that these diamondiferous deposits occur in more or less round, oval, or kidney-shaped funnels or pipes. I have recently come across one in the Free State, which is in the form of a very long vein, varying in thickness from a few feet at the extremities to some hundreds of feet in the centre. At that time the greatest depth reached was 825 feet at the De Beers Mine. I am unaware to what depth it has reached up to date. The group of pipes at Kimberley occur in the lower Karoo beds. I believe some diamondiferous deposits recently discovered in the Free State occur in the coal measures, and it would be interesting to know this as a fact. If this is so, the formation of these deposits occurred subsequently to the deposition of the coal measures and may be found in them. Similar sheets as occur at Kimberley, as shown in the section of the Kimberley pipe accompanying my paper, occur in the coal measures, and I have here specimens of a sheet of an olivine basalt, which is in part an optically olivine dolerite from a borehole which I am putting down in coal measures. The rock is much jointed vertically. It contains labradorite, augite, olivine, and a small quantity of ilmenite. The olivine has been replaced by serpentine along the joints. This has a black velvety appearance.

At Kimberley some of the sheets are amygdaloidal, but have, I believe, pretty much the same constituents.

The PRESIDENT, in concluding the meeting, said the paper was not only a tribute to Dr. Atherstone's zeal in the days when geologists were looked down upon as men giving way to fads and hallucinations, but showed that Dr. Atherstone had a clear mind, and took a comprehensive view of the circumstances of the country. There was so much in the paper that they must put off the criticism. But the formation of the Ecca conglomerates was laid down by Dr. Atherstone long previous to Professor Seeley's opinion, which coincided. The thesis of the formation of the diamond has always acted the attention of scientists since men were first considering the origin of the bright shining stones. He would like to compliment Dr. Atherstone on the ingenuity of his thesis, and in contributing another theory. He noticed that Dr. Atherstone had alluded to what was known by all chemists, that the elements, when under certain conditions in a state of fusion and under pressure had a tendency to assume a crystalline form. Then there was the evidence adduced of the epicorins and the lemons in support of the theory that Africa and India were at one time connected via Madagascar. This was a proof of the mental grasp of the whole subject which Dr. Atherstone had taken. He would now put the vote of thanks, and ask that it be agreed to in the usual manner.

The vote was then carried by acclamation, and the PRESIDENT having intimated that Mr. Draper would at the next meeting read a paper on the "Dwyka" conglomerate, the meeting terminated.—*The Standard and Diggers' News.*

PROVINCIAL SHARE MARKETS.

THE CORNISH MINE SHARE MARKET.

MR. SAMUEL JOHN DAVEY, Dealer in Cornish Mine Shares, Redruth, Cornwall, reports under date of September 12 (12 o'clock) as follows:—We have had a very quiet market all the week, and there is but very little doing to-day. Following are quotations:—Blue Hills, 1s. 6d. to 2s. 6d.; Carn Brea, 1½ to 2½; Dolcoath, 18s. to 19s.; East Pool, 4½ to 4½; Killifreth, 11s. to 12s.; South Crofty, 7½ to 8½; South Wharfedale, 1 to 1½; Tincroft, 7½ to 7½; West Frances, 4 to 4½; West Kitty, 4½ to 5; Wheal Bassett, 2½ to 3; Wheal Grenville, 13½ to 13½; Wheal Kitty (St. Agnes), ½ to ½; Polberro, ½ to 1.

Mr. MICHAEL WILLIAMS BAWDEN, Mining and Assaying Offices, Liskeard, Cornwall, writes (September 12) as follows:—The mining market is without any improvement, on the continued dullness of tin, and prices generally are easier, with almost an absence of business; to-day's settlement being very limited. Closing prices:—Blue Hills, 4s. to 5s.; Carn Brea, 2 to 2½; Devon Consols, 30s. to 31s. 6d.; Dolcoath, 19s. to 20s., fully paid; Drakevale, 2s. to 2s. 6d.; East Pool, 4 to 4½; Killifreth, 11s. to 12s.; Levant, 4½ to 5; Polberro, 18s. 6d. to 20s.; South Crofty, 10s. to 11s.; South Frances, 1 to 1½; Tincroft, 7½ to 7½; West Frances, 1 to 1½; West Kitty, 4½ to 4½; Wheal Bassett, 2½ to 3; Wheal Friendly, 1s. 6d. to 2s.; Wheal Grenville, 13 to 13½; Wheal Kitty, 9s. to 10s.

Messrs. ABBOTT AND WICKETT, Stock and Share Brokers and Mining Share Dealers, Redruth, write under date of September 12:—The market has been slightly better, and when the Dolcoath settling has been completed it is expected that more business will result. Prices are very low now, and a reaction may safely be predicted. Quotations herewith:—Blue Hills, 2s. to 4s.; Carn Brea, 1½ to 2; Dolcoath (fully paid), 18s. 6d. to 19s. 6d.; ditto (5s. paid), 6s. to 6s. 6d.; East Pool, 4 to 4½; Killifreth, 10s. to 12s.; Polberro, ½ to ½; South Crofty, 7½ to 8½; South Frances, 1 to 1½; Tincroft, 7 to 7½; West Frances, 1 to 1½; West Kitty, 4 to 4½; Wheal Bassett, 2½ to 3; Wheal Grenville, 13 to 13½; Wheal Kitty, ½ to ½. Tin, £64 16s. 3d.

MANCHESTER.

Messrs. JOSEPH B. and W. P. BAINES, Stock and Share Brokers, Queen's Chambers, 7, Market-street, write September 12 (noon):—With the occurrence of the settlement impending, and the attention required for its adjustment, figures have undergone a fair amount of change during the past week. Except where influences of an individual nature (individual to separate stocks or group of stocks) have ruled otherwise, the temper of the markets has, on the whole, been still upward, or "bullish." This, notwithstanding some setbacks at the settlement, has been most particularly noticeable in home rails, the record therein being an almost unbroken one of advances, the exceptions (for the week) being South Eastern Deferred, which are ½, and Chatham Ordinary 3-16 lower since a week ago. Otherwise, advances are general, and in many instances these advances are of very fair amount. Americans have had a "bullish" feeling prevailing for the greater part of the week, but latterly the movements of gold from the other side have tended to depress prices, and, as a result, lower figures are the rule, to which there are but few and slight exceptions. Other markets mostly on the lower side, without anything very severe, however, in any department. With these premises we pass to daily details of changes. Friday last found home rails but slightly changed, except for Midlands, which quoted 1½ up. Yankees began weak on prices from the other side of previous day, but they did not slip away much from the early quotations. Canadian issues gave way a trifle. On Saturday, notwithstanding the near approach of the account, a fair business was reported, prices being but very little changed in any department. On Monday home rails kept firm, with "heavy" lines to the front on the strength of tone. Americans began fairly well, and mended down to the close, which was firm. Canadians generally were better, Pacifics being about ½ higher, but Trunk issues only harder. Tuesday being the carrying-over day in rails brought little fresh business. Home rails strengthened just about the amounts of the contingencies. Americans and Canadians mostly lower. Yesterday Home Rails kept fairly firm. In Americans and Canadians there was some profit-taking which resulted in prices being rather depressed. Still the declines do not amount to much. This morning prices showed some reflection of the figures from America. The currency question over there is a very vexed one just now, and it has had its effect on prices. Just at about time of writing the North British dividend announcement was made. Although the new ordinary get nothing, the preferred ordinary are to be paid in full, and this was better than worst prognostications. Therefore, as is most often the case, prices improved to about 46 for the new ordinary, as against 44½ the day but one before. Canadian deferred strengthened also sympathetically. Consols continue on the up grade, the rise on the week being ½ per cent. In all of the foremost securities such as colonials, corporation stocks and debentures, and foreigners, alterations are in favour of holders. For

these and the changes in the several classes of miscellaneous shares, and the group miscellaneous simply, see details as follows:—

CONSOLS.—Higher: Two and Three-quarter per Cent., ½; COLONIAL STOCKS, &c.—Higher: Natal Inscribed, 2; New South Wales Inscribed, ½; Victoria Railway Inscribed, ½.

CORPORATION STOCKS AND DEBENTURES.—Higher: Blackburn Three per Cent., ½; Liverpool Three and a Half per Cent., ½.

FOREIGNERS.—Higher: Argentine Six per Cent., 1½ to 1½; ditto Five per Cent., 1½; Brazilian Four and a Half per Cent., ½; ditto Four per Cent., ½; Italian Rentes, ½; Russian Four per Cent., ½; Spanish Four per Cent., ½; Uruguay Three and a Half per Cent., 1½.

BANKS.—Higher: Bank of Liverpool, ½; Consolidated Bank, 1-16; London and Midland, ½; Manchester and County, ½; Manchester and Liverpool District Bank, ½; Parr's Banking, ½.—Lower: Imperial Ottoman, ½.

INSURANCE.—Higher: Boiler Insurance and Steam Power, ½; Liverpool, London, and Globe, ½; Manchester Fire, 1-16; Maritime, 1-16.—Lower: Equitable Fire, 6d. to 1s.

MINES.—Higher: De Beers, ½; Oregoon Ordinary, ½.—Lower: Chartered, ½ to 5-16; Consolidated Gold Fields, 3-16; Mason and Barry, ½; Rio Tinto, 7-16.

COAL, IRON, &c.—Higher: Bolckow Vaughan, fully-raised, ½; ditto, £12 paid, 1-16 to ½; Dorman Long, ½; Ebbw Vale Steel, ½; A. Knowles and Sons, 1; Parkgate, 2; Staveley A, 1.—Lower: John Brown, ½.

TELEGRAPHS AND TELEPHONES.—Higher: Eastern Extension, ½.—Lower: Anglo-American Deferred, ½; Western and Brazil, ½.

BREWRIES.—Higher: Hardy's, ½; Parker's Burslem, ½; Showell's, 1.—Lower: Allsopp's, 1; Boddington's, ½.

MISCELLANEOUS.—Higher: Brunner Mond, ½; Coats, ½; A. and S. Henry, 3-16; Hudson's Bay, ½; Manchester Carriage A, ½; Manchester Carriage B, ½; Manchester Carriage C, ½; Star Paper, ½; West India and Pacific Steam, ½; Globe Telegraph and Trust, ½; Gas Light A, 4.—Lower: Bell's Asbestos, ½; Salt Union, 3-16; Liverpool United Gas B, 2.

LATER (4 p.m.).—Home rails irregular to-day, and Americans mostly flat. Whilst flat in tone, prices have not fallen away to any appreciable extent. Linotype Ordinary have had a good spring to-day. Ship Canals steady as regards quotations, which, however, are rather nominal for any bulk of business. Yankee prices come weak this afternoon.

SCOTCH MINING AND INDUSTRIAL COMPANIES SHARE MARKETS.

STIRLING.—Mr. J. GRANT MACLEAN, Stockbroker and Ironbroker (September 12), writes:—During the past week the markets have been unsettled, owing to the difficulty experienced at the fortnightly settlement in continuing transactions for the rise. Rates have been stiff, fully 30 per cent. being paid in some cases, and on others the account for the rise had grown so much that the shares could not be carried over at all. It is therefore probable that there will be a reaction before any further advance can take place in prices, or, at least, a pause in the upward movement till the account gets into a healthier condition.

In shares of coal, iron, and steel companies' prices are generally higher. Sydney Harbour Colliery shares offered, Bolckow Vaughan are at 13½; Calderbank Steel, 11s.; Ebbw Vale, 7½; Marbella, 6s.; Niddrie, 47s.; Steel Company of Scotland, 91s. 6d.; Stewart and Clydesdale's, 10½; and Shott Iron, 24.

In shares of copper concerns prices are easier in sympathy with the market for the metal. Tinto touched 17½, and Tharais 10½, but are now both a little better. Arizonas are at 62s.; Dolcoath Tin, 19s. to 20s.

In shares of gold and silver mines there has been less business doing owing to the large and difficult settlement. The delay in the announcement of crashings from South Africa has also restricted business. Randfontein, however, have improved to 85s.; Chartered shares have been selling between 8-16 and 8½; and Consolidated Gold Fields Ordinary from 16½ to 15-16; Wheeler Hill shares offered. Afrikaander are at 57s. 6d.; Associated Western Australia, 43s. 9d.; African Estates, 67s. 6d.; African Recovery, 41s.; Achilles, 4s.; Barnato Consols, 93s. 9d.; Broken Hill, 39s.; Big Blow, 30s.; Beaconsfield Diamond, 36s. 3d.; Balkia Esterling, 10s. 3d.; Black Flag 40s.; Big Golden Quarry, 3s.; Clyde, 35s.; Cressus South United, 25s.; Charterland, 35s.; Consolidated Marchison, 20s.; Coetzeeboom, 10s.; Eastleigh Deep, 40s.; Empress W.A., 13s. 9d.; Ella, 10s.; Graskop, 10s.; Gold Fields Matabeleland, 32s. 6d. prem.; Great De Kasp, 4s.; Goleondo, 23s.; Guy Fawkes, 16s.; Gwanda, 1s. 3d. prem.; Henry Nourse, 7½; Holcomb Valley, 3s. 3d.; Harmony Proprietary, 21s.; Hauraki, 14s. 6d.; Hainault, 43s.; Jackson's, 2s. 6d.; La Plata, 3s. 3d.; Lindsay's, 18s.; Londonderry, 11s. 6d.; Marchison Gold Fields, 10s. 6d.; Mount Margaret, 30s.; Mashonaland Agency, 76s. 3d.; New Clewer, 87s. 6d.; Nigel Deep, 88s. 9d.; North Sheba, 7s.; Ottos Kopje, 3s. 3d.; Oceana, 75s. 6d.; Rothery Block, 20s.; Rosenblock, 19s.; Randt, 9s.; Rhodesia, 20s. premium; Sheba, 49s. 6d.; Sam's Wealth of Nations, 6s. 3d.; Southern Geldenhuys, 4s. 9d.; St. Augustine, 15s. 3d.; Tati, 75s.; United African Land, 11s. 6d.; Violet, 28s. 9d.; Victoria and Altamira, 3s.; Waterfall 23s.; Wemmer, 11½; and Zambesia Exploring, 5½.

In shares of miscellaneous companies the principal alteration is an advance in oil companies' shares, as it seems the threatened strike of the shale miners is likely to be averted. Broxburn have improved to 13½, Pampherson 10, and Young's 55s. 6d. Aberfoyle Slate Quarry is at 7, and Nobels 15½.

EDINBURGH.

Messrs. THOMAS MILLER and SONS, Stock and Share Brokers, 69, Hanover-street, Edinburgh, report as follows under date of September 12:—A fair amount of general business has been transacted. The highest prices of railway stocks have not been maintained, but North British has advanced from 45½ to 45-16. Great North of Scotland has been specially good, and has advanced from 106 to 110. Insurance shares have come more into demand, North British and Mercantile have improved from 38½ to 40½. Liverpool, London, and Globe from 48½ to 49½. English and Scottish Law Life from 11½ to 12. Bank shares quiet. British Linen has risen from 391 to 393. Clydesdale from 19-16 to 19½. Royal has declined from 226 to 223½. British South Africa shares have receded from 8-9-16 to 8½. Arizona Copper have declined from 65s. 3d. to 62s. 6d. Consolidated Gold Fields from 16-7-16 to 16-1-16. Oil shares, after being depressed, have recovered, and show an improvement. Broxburn have risen from 12-13-16 to 13½. Young's from 50s. 6d. to 55s. 6d. Scottish Assam Tea 5s. higher at £9 5s. 6d.

THE Cleveland Ironmasters' returns for August, issued on Tuesday, was favourably, there being a reduction in stocks of Cleveland iron of 11,830 tons. The production of Cleveland iron was 114,000 tons, being the same as July. Hematite and other kinds were also 114,000 tons, 8000 of a reduction on July. The total production was 16,000 tons less than in August, 1894, but 86 furnaces blowing are eight less than 12 months previous. The total stocks of Cleveland iron, including warrants, are 285,000 tons.

THE CAPE GOLD EXPORT.—Capetown, September 6: The export of gold from the Cape during August amounted to £830,523 against £698,349 in the preceding month, and £676,000 in August last year. Gold to the value of £96,120 is being conveyed to Europe by Messrs. Donald Currie and Company's steamship Roslin Castle.—*Router.*

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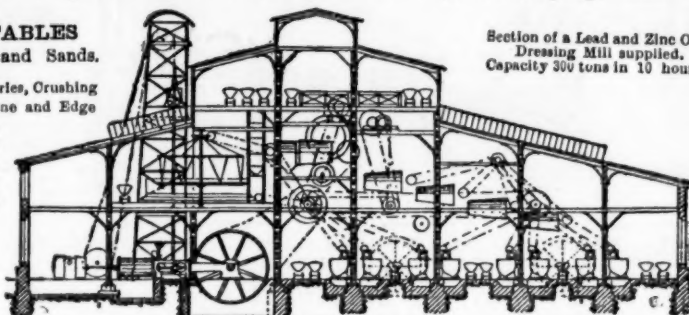
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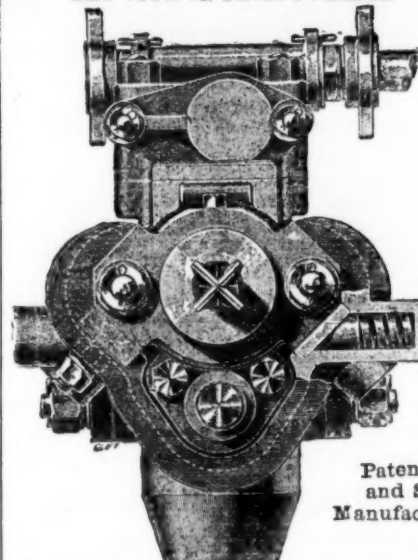
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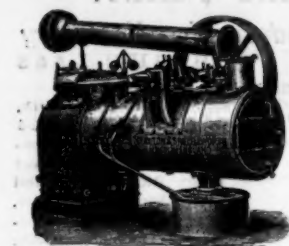
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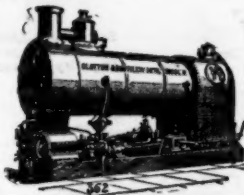
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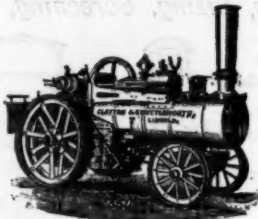
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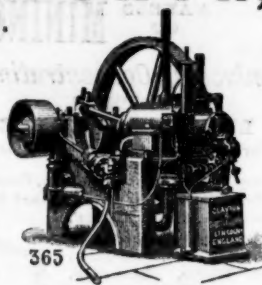
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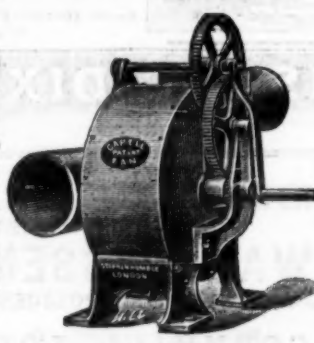
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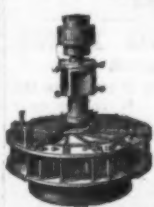
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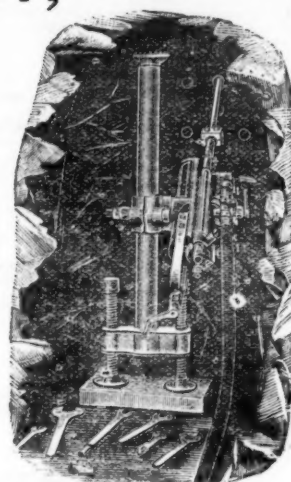
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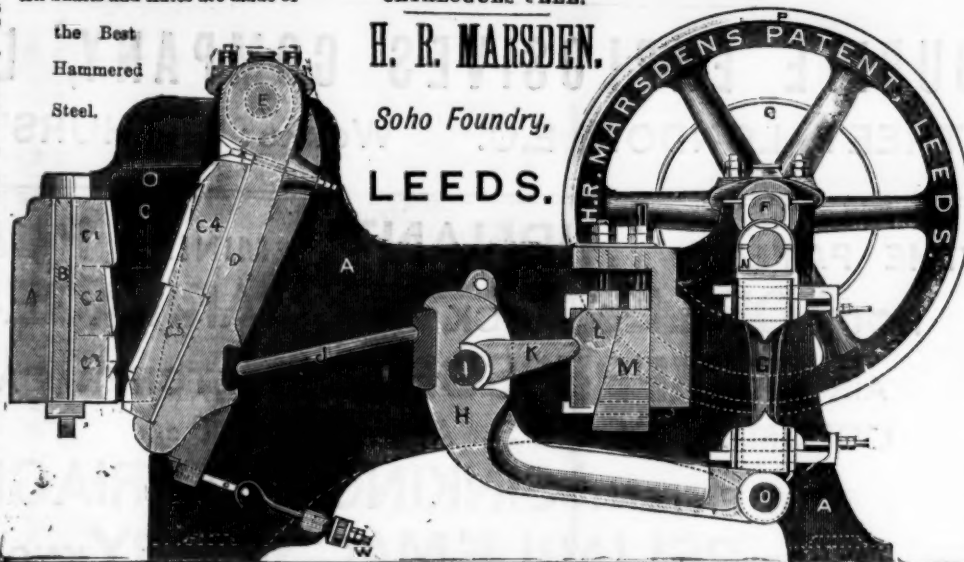
"The reports from our mines as regards the working of your Fine Crusher (30x5) recently supplied are very favourable, although we cannot quote you exact figures. On being got into position it was tried by hand, with the result that it made short work of the biggest pieces of ore we put into the hopper. You might say how long you would take to deliver another of the same size."

"As I once before stated, your machine is a perfect pulverizer."

"I am sure the machine will be a success, and a great one, and there is any amount of demand for such a machine. We can work it with 20 lbs. of steam, and our engine, which is a 12 h.p., plays with the work, in fact we run the Stonebreaker and the Pulverizer both together with 35 lbs."

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"We have great pleasure in testifying to the efficiency of the 15 in. by 8 in. Lever Hand Hammer Motion Stone Breaker you supplied us with. We find that our 4 h.p. Engine with case drives it 24 revolutions per minute, and breaks six tons per hour of the hardest 'Diorite' Whinstone; the sample is much before any hand-broken we have ever got done. Our Mr. P. J. GRAHAM, C.E., who was Surveyor of Highways for ten years, before joining our firm, says: 'It is by far the most economical machine he ever had to do with; he had two of your former make, and two of another firm's make; compared with these four machines your new patent gives the following advantages:—The horse-power required to drive is exactly 40 per cent. less. The sample of the broken material is so far superior to that broken by other machines, and even to that broken by hand that we can make no comparison. I is by far the best sample we have ever seen.'"

"I now order three of your Stone Crushers, 15 by 10, to be of your very best construction, and to include two extra sets of Jaw and Cheeks for each. The last two 24x13 machines you sent me, which are at work in this colony, are doing very well. You will soon find that the railway contractors will adopt your machines in preference to the colonial ones—two of which I have. I know other contractors have had as many as nine of them, which have not given very good satisfaction. Once they know of your thoroughly, I believe you will do a good trade with the colonies. For reference of the high character of your constructions you can refer to me as having used them with the very best results, both in New Zealand and this colony, and much prefer them to the colonial article, both in point of construction and less liability to go out of order. The material we are crushing is very hard blue stone, for railway ballast purposes. Push on with the order as quickly as possible. I do not think it necessary to have any engineering inspection. I have brought your machines prominently under the notice of all large contractors in this colony, likewise the Government. Many of the contractors have spoken to me in reference to their capabilities, and could only tell them that they are by far and away the best and most economical lever used. The very fact of me having purchased seven from you at various intervals and various sizes, and two above 12 years ago, and having tried all the other makers is sufficient guarantee of the capabilities and the working of your machines. Yours is every way surpass all others."

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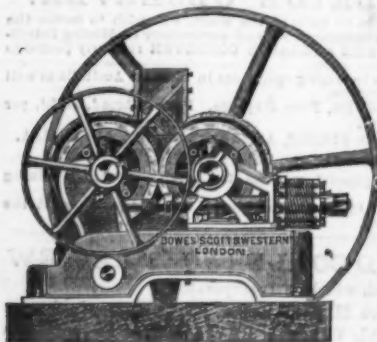
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